

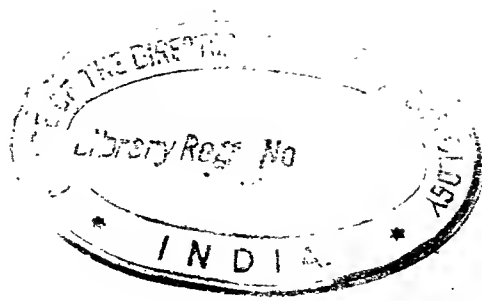
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FIELD MUSEUM OF NATURAL HISTORY

REPORT SERIES

VOLUME IV



CHICAGO, U. S. A.

1910-1914



THE LATE EDWIN WALKER.
An Incorporator and Trustee of the Museum.

FIELD MUSEUM OF NATURAL HISTORY.

PUBLICATION 150.

REPORT SERIES.

VOL. IV, No. 1.

ANNUAL REPORT OF THE
DIRECTOR

TO THE
BOARD OF TRUSTEES

FOR THE YEAR 1910.



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ANNUAL REPORT OF THE DIRECTOR.

1910.

To the Trustees of Field Museum of Natural History:

I have the honor to present a report of the operations of the Museum for the year ending December 31, 1910.

Under the proper heading and subheading following, the affairs of the Museum are considered and commented upon in detail, from which will be drawn many gratifying evidences of the steady development of the Museum and of the increase of its usefulness as an agency for popular education and for the acquisition and dissemination of scientific knowledge. Its field of operation has been greatly extended during the past year, especially in the Department of Anthropology, although all of the Departments have shared in the general outward movement. The death of Mr. Edwin Walker, who had been a most serviceable member of the Board of Trustees since its organization, must be chronicled. At a meeting of the Board held October 10th the following was recorded:

"The closing of the life of Edwin Walker, after a protracted and suffering illness, removes from this Board one of its oldest members, whose constant services, especially in matters involving legal questions, have been of very great value to the Institution.

"Upon the larger interests of Chicago, in which community he had lived and occupied a conspicuous station for many years, and to whose welfare he was patriotically devoted, the death of Mr. Walker entails the loss of another of these strong men to whose wise, forceful, purposeful character Chicago owes its great progress and high place as a municipality. We feel it a most grateful privilege to express our admiration for him as a fellow citizen and as a friend."

During the year two members of the scientific staff have died: Mr. John Farwell Ferry, of the Division of Ornithology, and Mr. Charles S. Wake, cataloguer and bibliographer in the Department of Anthropology. Mr. Ferry was a young man of much promise and of great enthusiasm, and his associates and others in similar work keenly regret the close of the creditable career that undoubtedly awaited this young scientist. Mr. Wake was well advanced in years and a gentleman of unusual culture. He performed services of much value to science, but of a character not calculated to attract public attention.

It cannot be out of place in this report to mention the lamentable sudden death of Mr. Theodore Lescher, who had been for several years intimately associated with the staff of the Museum in preparing the plans for the interior arrangement of the new Museum building. A man of rare accomplishments, fine sensibilities, and scrupulous conduct, the sudden ending of his life, full of the promises of high station in his profession, is deplored. The conclusion, for the present at least, of the expedition of Dr. Berthold Laufer to China and Tibet in the interest of the Department of Anthropology, and under the support of the fund provided by Mrs. T. B. Blackstone, is worthy of special mention in view of the brilliant results that rewarded the three years of researches conducted by its accomplished chief. The amount of material, but, what is of greater importance, its character, places the Museum in the first rank among those institutions that have entered this difficult and fascinating territory. It is hoped that a great part of the collections will be on view within a few months, and in the meantime, a number of valuable contributions to the knowledge of Tibet and China reflected by these collections and their care will be made by Dr. Laufer, who has accepted the permanent position of Associate Curator of the Division of Asiatic Ethnology of the Museum. While referred to elsewhere, special mention will be made of the generous donations of Mr. Joseph N. Field supporting ethnological investigations in the South Pacific Islands; the contribution of the Standard Oil Company in both funds and material for the reinstallation of Petroleum Hall; and further donation from Stanley McCormick for the extension of the investigations among the Indians. The members of the Board of Trustees of the Museum have individually made a number of contributions of money to the institution during the year. Extensive repairs and improvements have been made in and about the Museum building during 1910. The exterior of the structure has been whitewashed and the main and subordinate foundations, entrances, etc., have been repaired and strengthened in accordance with the recommendations of the Architect, H. Burnham & Company. An iron fence has been erected about the building to protect the public walking in the park near the building from possible falling plaster from the cornice, resulting from that deterioration. The city telephone service has been extended for Departmental and public use within the building, and the laboratories and work rooms as well as a number of the exhibition halls have been rearranged and repainted, refloored, etc. One of the most important additions to the facilities of the working force of the Museum has been the renting

of botanical and geological laboratories and work rooms in a building on Jefferson Avenue, a short distance from the Museum. This is a well lighted and a well ventilated suite of rooms in a new brick building, and is a very gratifying relief from the dark, cramped, and generally unfit quarters that were provided in the Museum building. In these new quarters the Department of Botany is now engaged with a most competent force in preparing artificial plants, flowers, and fruits for the exhibition series, a number of which have already been placed on view and elicit unusual appreciative comment on the part of both the public and students. The close of the year finds a number of important expeditions in the field. Dr. Lewis in British New Guinea; Mr. Cole in the Philippines, whence he will go to Borneo; Dr. Osgood and his assistant in Venezuela; Dr. Meek in the Panama Canal Zone; Dr. Millspaugh in the Bahamas, and Mr. Smith in Oregon. In addition to these, expeditions are contemplated for botanical investigations and collections in the Tropics of the Pacific and in the Far East; for collections and reproductions among the Hopi; for investigations of the Potawatomi Indians and of the Mound Builders, and for ornithological collecting and sketching on the Island of Laysan. From all of which it is apparent that as satisfactory as the results of the closing year have been in all Departments, the coming year is equally promising.

MAINTENANCE.—The budget approved by the Board of Trustees provided the sum of \$178,320 for the expenses of the Museum for the year. The amount expended for maintenance was \$145,330, leaving the satisfactory margin of \$32,990. In addition to this amount \$49,800 was expended by special authority of the Board for collections, expeditions, and exhibition cases, which brought the total to \$195,130. A further sum of \$20,865 was subscribed by friends of the Museum for special expeditions, material, and new installations.

LECTURE COURSES.—Two courses were given as usual, in the Autumn and Spring, bringing the number of courses given by the Museum to thirty-three. The attendance at these lectures has been steadily good, and the increase in the attendance of students and teachers has been observed with much satisfaction. The ready co-operation of well-known scientific men and lecturers in this work is gratifying, and occasion is here taken to thank the different gentlemen who participated in the courses.

Following is the Thirty-second Free Illustrated Lecture Course, with the subjects and lecturers, delivered during the months of March and April, 1910:

- March 5. — "Snapping Live Game on the Roosevelt Hunting Trail."
Mr. A. Radclyffe Dugmore, New York City.
- March 12. — "The Call of the West."
Mr. C. J. Blanchard, Statistician, U. S. Reclamation Service.
- March 19. — "Mongolia and Siberia."
Prof. Roland B. Dixon, Harvard University.
- March 26. — "Our Forests and What They Mean."
Dr. Charles F. Millspaugh, Curator, Department of Botany.
- April 2. — "Cliff Dwellers and Pueblos."
Mrs. Gilbert M. ... General, The Colorado Cliff Dwellers ...
- April 9. — "Some Alaskan Glaciers."
Prof. U. S. Grant, ... Northern University.
- April 16. — "Fossil Hunting."
Mr. E. S. Riggs, ... Curator, Division of Paleontology.
- April 23. — "Human Development and Evolution."
Dr. Frank Lillie, U. S. ... Chicago.
- April 30. — "The Colorado River."
Prof. O. C. Farrington, ... Curator, Department of Geology.

Following is the Thirty-third Field Naturalist Lecture Course, with the subjects and lecturers, delivered from November 15th to December 10th, 1910:

- Oct. 15. — "The Bird Life of the ... with Special Reference to the Nesting of the ..."
Prof. Frank M. ... Assistant Curator of Mammalogy and ... American Museum of Natural History.
- Oct. 22. — "Japanese Mythology as Represented in Their Archaeology."
Dr. William Elliott Griffis, ... New York.
- Oct. 29. — "Through Africa with ..."
Prof. J. Alden ... New York, Field Naturalist to the ... African Expedition.
- Nov. 5. — "Wild Game of Alaska."
Prof. Wilfred H. Osborn, ... Curator of Mammalogy and Ornithology.

- Nov. 12. — "Plants and People of Mexico."
Prof. Charles J. Chamberlain, Department of Botany,
University of Chicago.
- Nov. 19. — "Gold Mining in Alaska."
Prof. Wallace W. Atwood, United States Geological
Survey.
- Nov. 26. — "Material Basis for Perpetuity of the American People."
Dr. W J McGee, Washington, D. C.
- Dec. 3. — "The Indians of the Province of Esmeraldas, Ecuador."
Dr. S. A. Barrett, Curator of Anthropology, Public
Museum, Milwaukee, Wisconsin.
- Dec. 10. — "The Winning of the West or Home-making by the
Government."
Mr. C. J. Blanchard, Statistician, U. S. Reclamation
Service.

PUBLICATIONS.— During the year eleven publications were issued, most of the numbers being of the Zoological Series. The mailing list has been considerably extended in connection with the exchange system of literature with scientific and learned societies.

Following is a list of the publications issued and a table showing their distribution during the year:

- Pub. 139. — Zoological Series, Vol. VII, No. 8. Description of two New Pulmonate Mollusks with a list of other species from the Solomon Islands, collected by Dr. George A. Dorsey. By William Healey Dall. 10 pp., 1 plate, edition 1,500.
- Pub. 140. — Report Series, Vol. III, No. 4. Annual Report of the Director and the Board of Trustees, for the year 1909. 107 pp., 14 illustrations (half-tones), edition 2,500.
- Pub. 141. — Zoological Series, Vol. X, No. 2. Diagnoses of New East African Mammals, including a New Genus of Muridæ. By Wilfred H. Osgood. 10 pp., edition 1,500.
- Pub. 142. — Zoological Series, Vol. VII, No. 9. A Synoptic List of the Fishes known to occur within fifty miles of Chicago. By S. E. Meek and S. F. Hildebrand. 105 pp., 12 zinc etchings, 52 half-tones, edition 1,500.
- Pub. 143. — Zoological Series, Vol. X, No. 3. Further New Mammals from British East Africa. By Wilfred H. Osgood. 8 pp., edition 1,500.

- Pub. 144. — Zoological Series, Vol. VII, No. 10. Notes on some Cleridæ of Middle and North America with descriptions of New Species. By A. B. Wolcott. 63 pp., 2 plates, edition 1,500.
- Pub. 145. — Geological Series, Vol. III, No. 8. Meteorite Studies III. By Oliver Cummings Farrington. 28 pp., 4 half-tone plates, 1 zinc plate, edition 1,500.
- Pub. 146. — Ornithological Series, Vol. I, No. 6. Catalogue of a Collection of Birds from Costa Rica. By John Farwell Ferry. 24 pp., edition 1,500.
- Pub. 147. — Zoological Series, Vol. VII, No. 11. Batrachians and Reptiles from Eastern Africa. By Seth Eugene Meek. 11 pp., edition 1,500.
- Pub. 148. — Zoological Series, Vol. VII, No. 12. Notes on Batrachians and Reptiles from the Islands North of Venezuela. By Seth Eugene Meek. 10 pp., edition 1,500.
- Pub. 149. — Zoological Series, Vol. VII, No. 4. Mammals from the Coast and Islands of Northern South America. By Wilfred H. Osgood. 10 pp., 4 half-tone plates, edition 1,500.

The Museum exchange list now contains 1,283 names, of which 682 are in foreign countries and 601 in the United States and its possessions.

The following table shows the number of exchanges with each of the foreign countries:

Argentine Republic	12		61
Australia	24		138
Austria	41		20
Belgium	18		12
Borneo	1		3
Brazil	8		1
British Guiana	2		1
Canada	29		111
Central America	6		2
Ceylon	3		38
Chili	2		16
China	1		7
Cuba	4		4
Denmark	7		1
East Africa	1		1
Egypt	1		17
Finland	1		18
Fiji Islands	1		1

New Zealand	6	Spain	5
Norway	8	Sweden	14
Peru	2	Uruguay	1
Portugal	6	West Indies	4
Roumania	1	Yucatan	1
Russia	19		
Sicily	1		682

The following table shows the number of foreign exchanges receiving the different publications:

Anthropological	248
Botanical	359
Geological	329
Ornithological	219
Zoological	299
Report	682

The publications are distributed to the different States and Insular Possessions as follows:

Alabama	2	New Jersey	16
Arkansas	1	New York	84
California	28	North Carolina	6
Colorado	12	North Dakota	1
Connecticut	23	New Mexico	2
Delaware	2	Ohio	17
District of Columbia	70	Oklahoma	2
Florida	2	Oregon	1
Illinois	57	Pennsylvania	41
Indiana	13	Rhode Island	5
Idaho	1	South Dakota	2
Iowa	13	Tennessee	2
Kansas	7	Texas	3
Kentucky	2	Utah	2
Louisiana	3	Vermont	4
Maine	7	Virginia	3
Maryland	9	Washington	6
Massachusetts	67	West Virginia	4
Michigan	13	Wisconsin	16
Minnesota	9	Wyoming	2
Mississippi	3	Philippine Islands	2
Missouri	14	Porto Rico	1
Montana	2	Hawaii	6
Nebraska	7		
Nevada	2		601
New Hampshire	4		

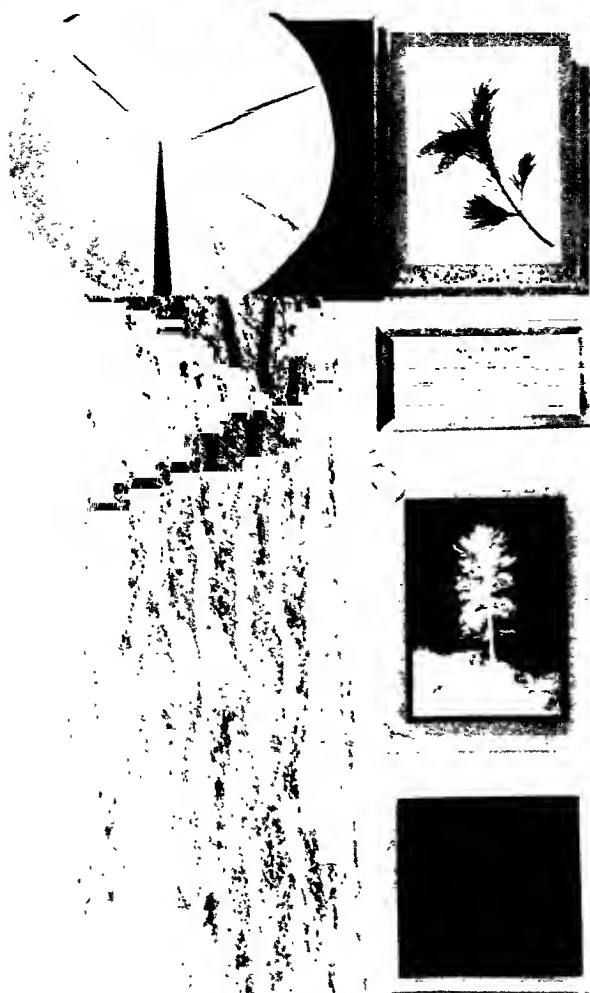
The following table shows the number of domestic exchanges receiving the different publications:

Anthropological	251
Botanical	330
Geological	333
Ornithological	169
Zoological	280
Report	601

THE LIBRARY.—The Library now contains 54,270 books and pamphlets distributed as follows:

General library	37,101
Anthropological library	2,496
Botanical library	5,290
Geological library	6,537
Zoological library	2,141
Library of Exposition Literature	705
	<hr/> 54,270

The additions for the year were 3,344 books and pamphlets — 334 by purchase and 2,992 by gift and exchange. The purchase of books, having been limited to a portion of such works as were urgently needed, was less than the previous year by 682 books. The accessions were largely confined to gifts from friends of the Museum and exchanges from kindred institutions. The most notable gift of the year was received through the kindness of Mr. W. J. Chalmers and Mr. Byron L. Smith, who presented to the Museum the Head collection of fossils that included a complete set of monographs on fossil sponges that are all valuable because of their rarity; partial sets of geological survey reports and transactions that are valuable in filling in and completing some of the library, and a number of duplicates that will be useful as exchange material. Other valuable gifts were received from the following: M. Boman, Paris, *Antiquités de la région andine*, 2 volumes; Mr. and Mrs. E. W. Cramer, Chicago, Audubon's *Birds of America*, 1840-44; Mr. Clarence B. Moore, Philadelphia, *Antiquities of the Arkansas, White and Black rivers, Arkansas*; Mr. Martin, Chicago, Carnegie Institution of Washington Publication, 1895; Messrs. Marshall H. Saville and George E. Heye, New York, *Contributions to South America Archaeology*, 2 volumes; Mr. Thurston, Madras, India, *Castes and Tribes of Southern India*, 2 volumes. Ashmolean Natural History Society of Oxfordshire, Oxford, England; Bataviaasch Genootschap Van Kunsten en Wetenschappen, Batavia, Java; Kir-



WHITE PINE MCNOGRAPH.
North American Timber Series.

Magyar Termeszettudományi Társulat, Budapest, Hungary; Institut de Botanique de L'Université, Genève, Switzerland; India Archaeological Survey, Calcutta; Naturwissenschaftlicher Verein für Schleswig-Holstein, Kiel; Royal Cornwall Polytechnic Society, Falmouth, England; Kungl. Vetenskaps Societeten, Upsala, Sweden.

The list of accessions will also show gifts that are useful additions to the library. The work of correcting duplicate call numbers and cataloguing accessions received in the early years of the library was continued during the year. There were sent to and returned from the Newberry Bindery 876 books, periodicals, and publications of learned societies. For the several card catalogues 19,662 cards were written and filed. Twelve installments of the John Crerar Library cards were received, but were only partly distributed owing to the crowded condition of the card cabinets. The two units or sections of the steel cabinet received in the beginning of the year have proven entirely satisfactory. A sufficient number of cards had accumulated, however, to more than fill these sections before they were received.

DEPARTMENTAL CATALOGUING, INVENTORYING, AND LABELING.—The Curator of Anthropology reports 1,625 catalogue cards written and recorded in the Department inventory, numbering 33 volumes. The most important collections catalogued have been those from the Banawi and Igorot tribes, secured by S. C. Simms on the 4th R. F. Cummings Philippine Expedition; the Ilongot collection (partially) from Northeastern Luzon, made by the late Dr. William Jones; and the Etrurian archæology collected by Mr. E. E. Ayer. The classified tribal lists have been added to, and the card catalogue for the same has been kept up. The work of labeling has gone on at about the same pace as during 1909, 3,755 standard black labels of various sizes were printed for the Department, of which 2,030 were for Northwest Coast Halls, 1,575 for the East Court, 85 for the Egyptian Hall, and 66 for California Hall.

The cataloguing of the specimens received in the Department of Botany has been kept up to date. The entry books of the Department number 56, in these 297,810 specimens have so far been catalogued, 29,589 of which were entered during the past year. The cataloguing of herbarium specimens progressed satisfactorily throughout the year. Besides organizing the current accessions the Wahlstedt herbarium, consisting of 17,555 specimens, has been completed; 2,025 sheets have been added from the Rothrock herbarium, and 5,250 from that of the University of Chicago. About 3,000 cards have been written and added to the indices of the Department and the index books of the collections kept up to date.

Owing to the large number of specimens received during the year it has not been possible for the Department of Geology, as has usually been the case, to complete within the year the cataloguing of all specimens received. Nevertheless, a considerable portion of the work has been done. To the card catalogue of the Department Library cards have been added during the year corresponding in number to additional books received. The number of cards thus added is 516, making the present total of the Departmental Library catalogue cards, 2,332. To the Department photograph albums 128 prints, chiefly obtained by the Museum expedition to Utah, have been received, making a total of 2,500 prints now in these albums. A considerable amount of labor has been performed by the Assistant Curator of Invertebrate Paleontology in the direction of completing the records by identifying specimens of invertebrate fossils previously catalogued but not identified. About a thousand specimens of fossil sponges and about one hundred species contained in the collection of Cretaceous fossils have thus been identified and recorded. The principal work of labeling has been that of the collections in Hall 60, marbles and building stones, and Hall 70, coals and hydrocarbons. These collections have been labeled throughout, the number of labels prepared and installed being about four hundred for each hall. The number of these were large, descriptive labels. Complete frames, twenty-eight in number, were provided for the large specimens in Hall 60. About sixty labels have been printed and installed in Hall 68, clays and sands, and for the remainder of the collection of handwritten labels to the number of about five hundred have been provided so that use may be made of the collection until printed labels are prepared. Other miscellaneous labels for the economic collections to the number of about sixty have been printed, and about one hundred paleontological labels chiefly for the fossil sponges of the collection. The total number of printed label forms provided and installed during the year was, therefore, about one thousand. Corresponding to the four hundred and seventy-five labels was in addition prepared and placed in the hands of the printer.

Cataloguing and labeling of specimens in the Department of Zoology has been attended to so far as time and pressure of other business would permit, but it has been only possible to do a little more than keep pace with new accessions in this work. Approximately 1,300 catalogue entries have been made, including 660 in Ichthyology, 600 in Ornithology, and 40 in Oology. Of the specimens catalogued, the mammals have been recorded in the systematic catalogue.

The year's work on catalogues and inventorying is shown in detail below.

	No. of Record Books.	Total No. of Entries to Dec. 31, 1910.	Entries during 1910.	Total No. of Cards Written.
Department of Anthropology	33	114,280	1,272	114,653
Department of Botany . .	56	297,810	29,589	.
Department of Geology . .	20	112,495	9,414	6,763
Department of Zoology . .	40	87,830	5,624	28,718
The Library	13	80,037	8,000	109,962
Section of Photography	6	87,139	6,377	.. ..

ACCESSIONS.—Most of the accessions acquired during the year by the Department of Anthropology were gifts. Through Mr. R. F. Cummings more than 4,000 ethnological specimens from Igorot and Ilongot tribes of Northern Luzon, the Negrito of Bataan and the Bukidnon and Bagobo of Mindanao, were added to the Philippine collections. Full notes, photographs, and measurements accompany the collections. Mr. Barbour Lathrop, of Chicago, presented a magnificent royal sarong collected by himself in Jokjokartar, Java. Mr. T. A. Hagerty donated a bronze figurine of the Goddess Isis; Mr. E. E. Ayer, an Etruscan jar. A collection of spears, arrows, knives, etc., from Congo and the Soudan: Etruscan burial urns of terra cotta and alabaster, as well as vases of terra cotta, and gold and silver jewelry from Kabyle tribes of Algeria, Africa, was presented by Mr. Stanley Field, Mr. Edward E. Ayer, Mr. Watson F. Blair, Mr. George Manierre, Mr. George F. Porter and Mr. Richard T. Crane, Jr. Through Mr. William J. Chalmers and Mr. Byron L. Smith, the Illinois archæological material was increased by the W. R. Head Collection. Mr. Homer E. Sargent enriched the Salish collections by the addition of 75 specimens, collected by J. A. Teit. The gift comprises baskets, bags, matting, clothing, cradles, necklaces, robes, pipes, toys, spears, stone implements, shields, etc. From Dr. Seemeyer of the National Ethnological Museum, Budapest, was obtained, by exchange, a lot of photographs illustrating the physical types and home life of the different peoples of Hungary. Of the purchased accessions of special interest and great value in the study of Belgian archæology is the collection of 725 objects purchased from Baron Alfred de Lœe of Brussels. This collection represents material from flint quarries and workshops, casts of objects of the Bronze and Iron Ages, pottery of the Belgian-Roman Epoch, and a number of originals of the Frank Epoch. Twenty Navaho ceremonial masks were secured from J. L. Hubbell of Ganado, Arizona. Museum funds in the hands of Alfred R. Brown brought together a collection

of ethnological objects from Andaman and Nicobar Islands, which adds much value to the previous small collection from these islands.

The more important collections that have been added to the organized herbarium during the year are the following: J. C. Blumer, 356; Broadway, Tobago, 222; W. C. Cusick, Oregon, 187; R. A. Dixon, Texas, 143; W. W. Eggleston, Atlantic States, 95; A. D. E. Elmer, Philippine Islands, 384; Geological Survey of Canada, Dominion of Canada, 545; A. A. Heller, Montana, Utah, Nevada, and California, 698; O. E. Lansing, Jr., Illinois, Indiana, and Michigan, 128; New York Botanical Garden, Florida, Bahamas, and West Indies, 2,529; C. R. Orcutt, Mexico, 1,094; Peabody Museum, Canadian Mosses and Lichens, 2,592; H. H. Smith, Georgia, 457; H. . . . , Washington, 107; University of California, Mexico, 526; U National Museum, Idaho, Oregon, Washington, etc., 917. In addition to these accessions there have been a large number of s which appear in the detailed list of accessions of this Department. Accessions of economic material have been very small; merely a of added interest. Additions to the organized herbarium d arranged by localities are shown in the following table:

	Added to Herbarium in 1910.	Total now in Herb'm.
North America:		
Canada (in general)	6	1,956
Alberta	86	421
Assiniboia	1	20
British Columbia	155	948
Vancouver Island	194	418
Prince Edwards Island	3	12
Franklin	1	1
Mackenzie	5	10
Manitoba	62	284
New Brunswick	12	582
Nova Scotia	4	150
Sable Island	34	34
Ontario	127	462
Pribiloff Islands:		
St. Pauls	82	84
St. Georges	1	1
Quebec	27	72
Saskatchewan	102	395
Ungava	22	74
Yukon	66	120
Newfoundland	1	465
Labrador	7	170
Greenland	2	159

	Added to Herbarium in 1910.	Total now in Herb. m.
North America:		
United States (in general)	11	11
Alabama	168	961
American Plains	5	93
Arizona	515	7,149
California	652	17,421
Santa Catalina Island	1	24
Colorado	11	6,765
Connecticut	25	306
Dakota (in general)	12	32
Dakota (North)	158	182
Dakota (South)	19	103
Delaware	268	1,098
District of Columbia	18	1,833
Florida	1,592	17,579
Florida Keys	139	638
Georgia	129	4,321
Idaho	362	1,284
Illinois	514	16,601
Indiana	581	4,021
Indian Territory	106	215
Iowa	4	1,286
Kansas	29	250
Kentucky	6	650
Louisiana	46	991
Maine	42	1,132
Maryland	47	780
Massachusetts	168	2,220
Michigan	139	2,220
Minnesota	98	687
Mississippi	9	1,869
Missouri	320	971
Montana	205	3,187
Nevada	245	646
New Hampshire	102	1,079
New Jersey	49	1,541
New Mexico	3	2,269
New York	34	4,806
North Carolina	322	1,449
Ohio	98	1,460
Oklahoma	5	166
Oregon	587	5,500
Pennsylvania	88	6,579
South Carolina	72	619
Rhode Island	2	474
Tennessee	221	902
Rocky Mountains	4	731

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	Added to Herbarium in 1910.	Total now in Herb'm.
North America:		
United States		
Texas	61	6,118
Mexican Boundary	4	1,394
Utah	610	1,929
Vermont	480	1,782
Virginia	360	1,438
Washington	238	4,529
West Virginia	26	1,280
Wisconsin	15	760
Wyoming	26	763
Yellowstone National Park	1	265
Mexico (in general)	1,753	26,604
Campeche	28	28
Lower California	16	1,648
Guadeloupe Islands	1	28
Yucatan	101	4,685
Cozumel Island	1	172
Central America		
Canal Zone	3	3
Guatemala	1	2,142
Ruatan Island (Honduras)	1	21
West Indies (in general)	1	4
Bahamas		
Anguilla Island	1	135
Andros Island	4	1,268
Cat Island	1	447
Cave Cay	3	36
Eleuthera	2	667
Grand Turk Island	1	73
Great Bahama Island	5	625
Great Exuama Island	6	206
Inagua	2	443
New Providence	11	2,397
Watlings Island	2	460
Cuba	453	5,546
Jamaica	327	6,383
Porto Rico	1	3,970
Santo Domingo	236	472
South America		
Brazil	8	263
Chili	1	159
Colombia	6	2,524
Peru	3	8
Uruguay	6	133
Venezuela	6	965
Tobago Island	54	164
Azores Islands	7	8
Madeira Islands	3	14

	Added to Herbarium in 1910.	Total now in Herb'm.
Great Britain (in general) . . . . .	..	1,290
England	1,387	1,495
Isle of Wight	3	33
Ireland	9	9
Scotland	364	365
Hebrides Islands	1	1
Arran Islands	1	1
Wales	28	28
Europe		
Austro-Hungary	944	5,802
Belgium	113	183
Crete Island	5	5
Cyprus Island	1	1
Denmark	371	372
France	2,072	3,536
Germany	1,478	5,529
Greece	21	489
Holland	1	14
Italy	700	1,617
Corsica	46	47
Sardinia	50	52
Sicily	24	116
Norway	904	996
Portugal	4	5
Russia	24	1,255
Finland	11	19
Lapland	95	106
Poland	6	48
Roumania	4	4
Spain	197	243
Minorca Islands	10	10
Spitzbergen	5	5
Sweden	8,502	8,964
Gotland Island	195	196
Switzerland	721	1,736
Asia		
Afghanistan	1	2
Asia Minor		
Turkey	1	179
Ceylon	2	8
India	11	738
Java	1	24
Johore	8	8
Persia	1	13
Africa (in general)	5	3,837
Algeria	58	66

	Added to Herbarium in 1910.	Total now in Herb'm.
Africa		
Egypt	1	10
Natal	2	766
Oceania, etc.		
Australia (in general)	206	1,396
Queensland	1	1
Sandwich Islands . . . . .	...	275
New Zealand	9	19
Philippines	448	2,742
Total increase of the organized herbarium during the year 29,589 specimens.		

The organization status (i. e. the mounting, cataloguing and installation) of the larger collections entering into the is expressed in the following table:

Herbarium	Estimated contents	Fully organized	To be organized
Rothrock	22,510	8,027	14,483
Heller	14,603	5,264	9,339
Bebb . . . . .	...	31,759	...
Patterson . . . . .	.....	37,878	...
Schott	8,671	8,422	249
Small	11,528	8,814	12,714
Millspaugh . . . . .	....	5,001	...
Hitchcock . . . . .	...	7,079	...
Univ. of Chicago	5,000	19,210	25,780
Wahlstedt . . . . .	....	17,556	.....

In the Department of Geology the most important accession by gift was that of the Head Collection of sponges. This collection, numbering about eight thousand specimens, was kindly presented by Messrs. William J. Chalmers and Byron L. ... The collection is especially important for its representation of North American Paleozoic sponges, of which it is probably the largest and best collection ever made. Besides large numbers of Tennessee sponges of Niagara age there is a fine representation of sponges from the Chicago area and of Trenton sponges from Dixon, Illinois. Most of them have been obtained from localities no longer accessible. Much of the material has never been described and will afford new genera and species. Among single specimens a large one of *Astræospongia* ... the star-like structure of the skeleton deserves special mention. Additional specimens to the number of about three thousand ... in the collection consist chiefly of invertebrate fossils from various localities in the Mississippi Valley and include much excellent material, among which may be mentioned a fine slab of Le ... Iowa, crinoids and large specimens of fossil plants from the ... A series of fossil insects from the Florissant beds of Colorado is a representation of this



GROUP OF GORILLAS (*Gorilla gorilla*).
From the Congo Region, Africa. Male, female, and young.

occurrence hitherto lacking in the Museum collections. An important series of books was also obtained with the collection in number about three hundred. Especially important are works relating to fossil sponges of which a very complete collection was obtained. Other books obtained with the collection were of special value in completing sets of Geological Surveys previously possessed only in part. Among other gifts of importance the following may be mentioned: A complete series of ores and specimens representing various stages of concentration of the copper ores of Bingham Canyon, Utah, donated by the Utah Copper Company; a large amethystine twin crystal of calcite from Joplin, Missouri, presented by F. P. Graves; a section of the Shrewsbury meteorite presented by F. Justice Grugan; three slabs of Westfield, Massachusetts, verd antique of standard museum size presented by the Westfield Marble and Sandstone Company; fifteen specimens of sand-barite concretions presented by Prof. J. N. Gould; a series of gold and silver ores of the Porcupine and Coalt districts of Canada, presented by Thomas H. Rea; a large slab showing fossil brachiopods and worm tubes in relief, presented by A. J. Becker; five specimens of polished Smithsonite of gem quality from Mexico, presented by Charles H. Beers; and a large map of Colorado presented by U. A. Dohmen. By exchange with the British Museum representative sections of the Eli Elwah and Uwet meteorites were obtained, and by exchange with the University of Bristol, Bristol, England, 121 specimens representing 63 species of Paleozoic invertebrate fossils from various localities in Great Britain. From Rev. P. E. Nordgren 56 specimens of invertebrate fossils representing 15 species of Carboniferous and Devonian age from localities in Pennsylvania and New York, were also received by exchange; from A. G. Becker, 82 specimens representing 15 species of Devonian invertebrates; from H. G. Shelby, 12 specimens representing 3 species of Iowa crinoids; and from Julius Bohm a fine specimen of the hydrous beryllium borate hambergite from Madagascar, all by exchange. The most important purchase was that of the entire mass of the Ahumada, Mexico, meteorite. This is a pallasite weighing 116 pounds and is the only meteorite of this group which has as yet been found in Mexico. An exceptionally fine skull of the Tertiary carnivore *Hyænodon*, two specimens of gold of unusual beauty and two relief maps, one of the Malaspina Glacier region, Alaska, and one of the State of Illinois, were also purchased. The Malaspina Glacier map is about 7 feet by 4 feet 6 inches in dimensions and has the vertical and horizontal scales the same. It shows a portion of the lofty St. Elias range with innumerable glaciers extending down the valley to the ocean and bays. Of these

the Malaspina Glacier is the largest known outside the Arctic and Antarctic regions. The model also shows fiords, cirques, hanging valleys, marginal lakes, coastal plains, medial, terminal and recessional moraines, and other features of the region. The map of Illinois is 6 feet 7 inches by 3 feet 9 inches in size, and the vertical scale is about four times the horizontal. The rather low relief of the prairies is shown as well as the terminal and recessional moraines of the continental ice sheet. In contrast with these are the sharply incised streams and gorges of the driftless area in northwestern Illinois and in the extension of the Ozark Plateau in the extreme southwestern part of the state. Another topographic type is illustrated by the bottom lands of the Mississippi and Illinois flood plains. The accessions by collection include 133 specimens of the rare minerals and feldspars of Maine collected by the Curator, 40 specimens skeletons and skulls of fossil Tertiary vertebrates collected by the Museum expedition to Utah and 2,300 specimens fossils Carboniferous and Devonian invertebrates collected in Iowa by the Assistant Curator of Invertebrate Paleontology.

The total number of specimens of mammals and birds added to the collections is 1,968, of which 1,450 are birds and 530 mammals. A large collection of Gorillas and Chimpanzees, secured from J. F. G. Umlauff of Hamburg, German, forms a very important addition to the exhibits of mammals. It consists of seventeen specimens of several species and varieties; most of them are accompanied by complete mounted skeletons. It is undoubtedly the largest collection of African Anthropoids in this country. In the Division of Ichthyology and Herpetology the most important additions were 350 fishes from British Guiana, received in exchange from the Carnegie Museum, and which were collected last year by Dr. C. H. Eigenmann. Dr. Frank Billings and Mr. F. G. Hartwell presented a skin of a large saw fish from Tampico, Mexico, and Dr. Billings also presented the skin of a Tarpon from the same locality. A small but interesting collection of shells was received as a gift from Rev. P. E. Nordgren. In the Division of Entomology the additions consist of local insects collected by members of the staff.

EXPEDITIONS AND FIELD WORK. — In September, Dr. Berthold Laufer concluded his labors in China and Tibet under the Blackstone fund with collections comprising 10,000 objects. The ethnology of each country, supplementing and explaining that of the other, properly arranged, will show all phases of thought development and the most important features of culture in Eastern Asia. Returning to the Philippines at the close of 1909, on the 5th Cummings Expedition, F. C. Cole began work

among the Bukidnon of North Central Mindanao. A collection of more than 700 pieces, with photographs, was made from that rapidly changing people. Minor collections were secured from neighboring Mandaya and Manobo tribes. A representative collection and many photographs were obtained from among the Negrito and Bataan. Among the Bagobo, dwelling in four districts around Davao Bay, Southern Mindanao, a collection of 600 pieces fully illustrating their life was made; in addition 12 dozen photographs were taken and measurements made of 50 individuals. Collections are now being made among the Moro of the great Cotabato Valley. Dr. A. B. Lewis proceeded from Huon Gulf, German New Guinea, to Humboldt Bay in August 1909, and thence along the coast to Angriffs Hafen, visiting the coast villages as well as some toward the interior. Using Eitapé, Berlin Hafen, as a base, for a couple of months, the neighboring villages were visited, resulting in a collection of 600 specimens with about 80 photographs. Going then to Alii Island, Seleu, Angel and Tumleo Islands were studied, their inhabitants being pre-eminently manufacturing and trading peoples. From Eitapé a trip was made along the coast westward as far as Aissano, which yielded interesting collections and photographs. From Herbertshöhe, Dr. Lewis went with the government expedition to the south coast of New Britain, visiting en route many north coast villages of that island. Landing at Cape Merkus (Arawe) two months were spent in visiting native villages along the coast, for forty miles in each direction. Returning to Huon Gulf, a stop of two weeks was made at Bukaua and neighboring villages. Then, via Finsch Hafen, Sattelberg, at an altitude of 3,000 feet, among the mountains was visited. Here are Papuan peoples quite distinct from the Melanesians of the coast. Photographs were made and a small collection secured from the Hube, a cannibal tribe living about 100 miles inland. From Friedrich Wilhelms Hafen short excursions were made on Siar and Rageta Islands. In May, Potsdam Hafen was reached. Native villages and Vulkan Island were visited, after which headquarters were established on Hansa Bay near Awar and other native towns, forming a group of the highest type of culture to be found on the coast of German New Guinea. A month was spent in coast villages east and west of Potsdam Hafen. After some time spent in various native villages, both on the coast and inland, on August 9th, the Kaiserin Augusta River was entered on the steamer Siar. Only a portion of the eight days spent on the river was given to collecting. A study, however, was made of the culture along its banks. After many delays, due to various causes, Herbertshöhe was reached near the end

of the month. September and October were spent in packing collections, studying special industries and visiting the Sulka country at M'ope and the neighborhood of Mt. Varzin. Very rare Sulka and Baining masks and other things were obtained. Early in November Dr. Lewis left for the British Solomon Islands. He has made a careful study of the culture of these different regions, Berlin Hafen and Huon Gulf in German New Guinea and the southwest coast of New Britain, also full collections in those regions, supplemented by many photographs. Many scattering specimens have been secured from other regions which supplement the fine collections already possessed by the Museum.

The Dendrologist has completed his work in northern Georgia bringing in from that field 390 elements toward the North American Forestry monographs now preparing for installation. He then proceeded to the Pacific Coast where he will continue uninterruptedly in the field until he has secured the elements of the species to be represented from the region west of the Rocky Mountains. His first carload of material from the Coast has already reached the Museum. Together with his dendrological work he is making general collections for the economic and herbarium series. Roy A. Dixon made a trip to Texas, collecting in Walker, Montgomery and Harris counties; he secured 143 species for the herbarium and 477 duplicates for exchange. O. E. Lansing, Jr., continued his local collecting, returning 128 specimens for the herbarium and 470 duplicates for exchange.

During the latter part of the year a number of large feldspar quarries in Maine were visited by the Director of the Department of Geology for the purpose of securing specimens of the rare minerals contained in the pegmatites and a series illustrating the feldspar industry. Quarries in Auburn, Poland, Hebron, Norway, Georgetown and Topsham were visited and from nearly all of them valuable material was obtained. At Poland the rare good fortune was had of being present when one of the most valuable pockets of gem tourmaline ever found was opened. The opportunity was improved to collect series of the associated minerals and some steps were taken toward securing some of the gem material at a later date. Some excellent specimens of apatite and of the rare mineral hercynite were also obtained at this locality. At Georgetown some large specimens of white and yellow beryl were collected and at Hebron rare forms of columbite, triphylite, and other rare minerals. At all the quarries typical specimens of the feldspars and pegmatites mined were obtained and at the adjoining mills various grades of the ground product. A striking series of trap

dikes in granite was also collected, one of the slabs being 26 by 14 inches in dimensions with a dike three inches in width traversing it. The Assistant Curator of Paleontology and party spent about three months in northeastern Utah collecting Eocene mammals. Search for specimens was first made in clay strata near Vernal which had yielded some good material earlier to collectors, but no satisfactory returns were obtained by the Museum party. In the adjoining sandstone ledges, however, good showings began to be discovered and these were worked with excellent success during the remainder of the stay. Moreover the fauna proved to be different from that which had been obtained in the clays. The horizons worked ranged from the lowest to the upper measures of the Uintah formation in a portion of the so-called "Uintah desert," lying in the basin of the White River. Most of the fossils were found at levels of from 700 to 800 feet above the river. Owing to the arid conditions work was difficult and slow, since much time had to be consumed in hauling horse-feed and other supplies distances of thirty and more miles, and some of the work had to be done from a dry camp. Furthermore, owing to the thickness and toughness of some of the ledges, considerable drilling and blasting were necessary in order to secure specimens. Representative specimens of at least ten Eocene vertebrate genera were obtained, belonging mostly to the amblypods and titanotheres. Of the amblypods the best specimen obtained was a skull nearly three feet in length of the six-horned *Eobasileus*. This skull will make a striking exhibition specimen. Another form of which a good representation was obtained was *Dolichorhinus*. This animal seems to have been an aberrant branch of the titanotheres and is known only from the Eocene. Its skull is of peculiar and striking form, being shaped somewhat like that of the horse but with a cranium nearly as long as the face. No considerable part of the skeleton of the animal has ever been found before, but from the material collected by the Museum party it is probable that two practically complete skeletons will be secured. Another interesting find was that of a fine crocodile skull about two feet long and a lower jaw of a creodont (early carnivore) about sixteen inches long, indicating an animal larger than a polar bear. A preliminary list of the material obtained is as follows: *Uintatherium*, two skulls, one pelvis; *Eobasileus*, one skull; *Dolichorhinus*, two skeletons, six skulls, three lower jaws; *Telmatherium*, seven skulls, five lower jaws; *Palaeosyops*, two skulls, two lower jaws; *Mesonyx*, incomplete skull and jaws; *Crocodylus*, one large skull; *Tillotherium*, incomplete skull; unidentified creodont, one lower jaw; unidentified artiodactyls, two incomplete skulls; testudo, three carapaces and plastrons.

None of these genera had hitherto been represented in the Museum collections. About seventy-five specimens of modern reptiles were also collected and some representative specimens of the gilsonite mined in this locality. The Assistant Curator of Invertebrate Paleontology spent about three weeks in July in northeastern Iowa, collecting Ordovician and Devonian fossils. Near Clermont strata of Trenton and Lower, Middle, and Upper Maquoketa age afforded representative collections, the Trenton fossils being principally gastropods and cephalopods, and the Maquoketa brachiopods, trilobites, sponges and worm tubes. Not only was the quality of the fossils obtained from these localities particularly good for exhibition and study purposes, but also several species obtained will doubtless prove to be new. About 1,200 specimens representing 80 species were in all obtained from these strata. The kind assistance of Dr. Frederick Becker and his son A. G. Becker, both in giving information and in taking part in the actual work of collecting in this locality, was of much value. In search for Devonian fossils localities near Independence, Randalia, West Union, and Fayette were visited and desirable material obtained from all of them. Near Independence seven quarries were visited and about 500 specimens secured, representing 54 species of brachiopods, corals, etc., and seven specimens of a rare Devonian sponge. A number of specimens of agates, concretions, rocks, and clays were also collected here. The locality near Randalia yielded about 500 specimens of brachiopods, representing 15 or 20 species, and at West Union and Fayette small, representative collections were obtained. All the material collected was practically new to the Museum collections and some, as has been stated, will probably prove to be new to science.

No important field expeditions were conducted in 1910 by the regular members of the Zoölogical staff. Assistant Curator W. H. Osgood left early in January for London, England, taking with him for study and determination the greater part of the large collection of African mammals secured by the Museum African expedition of 1905-6. He returned in March having been most courteously received by the officials of the British Museum of Natural History and having satisfactorily identified the material by comparison with the many types and historic specimens in the London institution. Owing to the confused and incomplete state of the knowledge of African mammals, especially those of small and medium size, and to the almost total lack of specimens on this side of the Atlantic, this was the only way in which the collection could be thoroughly studied and authoritatively named. Its value to science and as a standard of reference for future study in

this country is thus very greatly increased. The complete report on the collection has not yet been published, but two preliminary papers have appeared describing one genus and twenty-eight species and subspecies of mammals new to science which are contained in the collection. Several short expeditions for local field work were undertaken with successful results. Mr. Osgood spent two weeks in August in northern Wisconsin and a few days in northwestern Illinois collecting small mammals. 111 specimens were secured. Later, in November, through the kindness of Mr. Cyrus H. McCormick, Mr. Osgood spent two days at White Deer Lake, near Champion, Michigan, making photographs and preliminary arrangements for securing material for a group of beavers. Mr. C. A. Corwin, artist, and Mr. Julius Friesser, taxidermist, spent ten days in July at East Tawas, Michigan, securing material for preparing bird groups. Mr. Corwin later spent several days at Dowagiac, Michigan, and a week in the vicinity of Yule, North Dakota, making sketches and color notes for use in background work. In October, L. L. Pray, taxidermist, spent two weeks at Dowagiac, Michigan, securing material for the preparation of groups of small mammals. The services of Mr. Henry F. Raven, of Venezuela, were secured for six months' work in Costa Rica and Venezuela as collector of mammals and birds.

Following is a list of the expeditions since the date of the last report:

Locality.	Collector.	Material.
Northern Georgia	H. H. Smith,	Timbers.
Utah	E. S. Riggs,	Vertebrate fossils.
German New Guinea	A. B. Lewis,	Ethnological.
Costa Rica and Venezuela	H. F. Raven,	Birds and mammals.
Iowa	A. W. Slocum,	Invertebrate fossils.
Maine	O. C. Farrington,	Minerals.
Illinois, Wisconsin and Michigan	W. H. Osgood,	Mammals, birds, and group material.
Philippine Islands	F. C. Cole,	Ethnological.
Ohio	C. L. Owen,	Preliminary investigation.
Northwestern University, Milwaukee, Racine, Beaver Dam	C. B. Cory or assistant,	Examining and comparing specimens in local museums.
China and Tibet	B. Lanfer,	Ethnological.
Texas	R. A. Dixon,	Herbarium specimens.

INSTALLATION, REARRANGEMENT, AND PERMANENT IMPROVEMENT.—Two cases of Batak and three of Apayao material, secured by F. C. Cole in Northern Luzon, have been installed in Hall 57, now temporarily filled with

Chinese and Tibetan ethnology collected by Dr. Laufer. Hall 56 has for some time past been used for the storage of Asiatic ethnology. This material has been installed in 27 standard cases, comprising five cases of India, five of Ceylon, two of Siam, two of Burma, seven cases of the H. N. Higinbotham Korean Collection, three of Ainu and three of Saghalin and Siberian tribes, including the Gilyak, Orochon, Tungus, Gold, and other tribes. A number of boats, for a long time in storage in the East Annex, coming from the former Department of Transportation and various collections, have been placed in their proper places in Halls 30, 31, 45, 52, 56, 57 and Alcoves 83 and 84 of the East Court. Hall 40, formerly devoted in part to Bontoc Igorot ethnology, is now being reinstalled in standard cases, to contain all Igorot collections, most of which material was secured by Assistant Curator Simms on the first and fourth Cummings Philippine Expeditions. This necessitates the removal from this Hall of two cases of Moro ethnology, which will be reinstalled with Moro material now being collected by Mr. Cole. Two Etruscan jars, gifts of Mr. E. E. Ayer and Mr. C. L. Hutchinson, have been placed in Alcove 120, North Court. In Hall 41 the life-size Forge Group of five figures, illustrating the manufacture of iron weapons by the Tinguian tribe of Philippines, has been completed, also the miniature Tinguian Village, consisting of houses with many and varied accessories. A facsimile of the Papyrus of Ani, the gift of Mr. E. E. Ayer, has been installed upon the North Wall of the Egyptian Hall, necessitating the placing of the mortuary textiles in frames, still higher. This reproduction, nearly 80 feet in length, was carefully mounted upon a backing, in long sections, of three-ply veneer, covered with wire netting and papier-maché. The frame surrounding the whole was also put up in sections, so that, if desired the whole could be removed without damage. In Hall 1, an acorn granary from the Coahuilla Reservation in southern California, has been installed, upon a platform of poles. The Algerian gold and silver jewelry mentioned in the list of gift accessions was temporarily installed in two cases on the South Wall of the H. N. Higinbotham Hall. A life-size Kwakiutl figure has been modeled and cast, upon which is to be shown the large Hamatsa raven mask of a Cannibal Dancer. A life-size figure has been modeled and cast for the Samoki pottery maker, one of the four groups to be shown in a new case illustrating Philippine industries. About 40 small Igorot figures, modeled by J. A. Burt, have been cast for better preservation. Mr. Stanley McCormick has made provision for the completion of the set of 13 Oraibi altars, the reproduction of which was undertaken several years ago. In addition, two or three of the most famous Hopi shrines will be reproduced, as well



ENLARGED FLOWER CLUSTER OF THE GRAPE-FRUIT.
Illustrating the floral characters of the family Aurantiaceae.

as one of their typical springs at which offerings are deposited. In addition, manuscript will be prepared for publication, labels, etc. For this purpose, the services of H. R. Voth has already been secured, and he is now at work upon his notes, drawings, photographs, etc., as well as engaged in shaping the various figures needed for the altar work.

In the Department of Botany material for general economic collections having been exhausted by the large installations accomplished last year, there remained no complete case display to accomplish this year. The work upon the installation has, therefore, been that of finish rather than that of enlargement. Specimens in 84 cases, installed previous to 1909, have been readjusted to render their appearance uniform with the newer and more satisfactory installations. This required the introduction of some modern mounts and labels and repainting with the later and "flatter" background and mount color. Further material has been added to 7 cases; 3 cases have been completely reinstalled; and 2 cases installed with new material. Despite many setbacks, caused by delay of the owner of the modeling shop in putting the same in proper condition for occupancy, satisfactory results have been obtained. A glass blower and a helper were regularly added to the staff. The following reproductions and models have been executed and placed on exhibition: A life size reproduction of a complete Sweet Potato plant showing the tubers; enlarged sectional flowers of the Akee, the Mangrove, the Pomegranate, the Sea Grape, the Sour Sop, the Grape Fruit; the male and female flowers of the Papaw (*Carica*) and the male flower of the White Birch; a full flowering rachis of the Papaw (*Carica*) and enlarged portions of the male and female catkins of the White Birch; a branch with leaves and fruits of the Pawpaw (*Asimina*), ripe and sectional fruits of the same; a large sectioned fruit of the Papaw (*Carica*) and a series of five reproductions illustrating the development of the fruits of the Mangrove. In addition to these, complete reproductions of large branches of Akee, Sea Grape, Pomegranate, Sour Sop, Grape Fruit, and Mangrove; a complete summit of a Pawpaw tree and complete plants of Aloe and Anthurium are ready for assemblage and finishing and the elements of all the various studies made by Dr. Dahlgren last year in Jamaica are ready for reproduction. The glass blower has reproduced a large number of complete pieces, such as several natural sized spikes of the minute flowers of the Sea Grape and the Akee, complete clusters of Grape Fruit; Papaw flowers, flowers of the Mangrove, Aloe, and Pomegranate; and many hundreds of piece parts of plants (for instance, to show the necessities of this work, 1,200 fruits

of Anthurium; 116 flowers and buds of Aloe in all stages of development; 300 minute stamens of the Pomegranate; 125 enlarged stamens of the same; 150 minute ovules of Carica, etc.).

In Higinbotham Hall some specimens of gems and gold have been installed and a spring button operating outside the case has been provided for one of the specimens of chalcedony containing liquid. In Hall 35 a representative series of the sponges of the Head Collection has been installed. The specimens exhibited occupy one wall case. For the most part the specimens are mounted on standard black board tablets, but species possessed in an especially large number are shown massed. Species especially well represented are several of *Astylospongia*, *Hindia sphaeroidalis* and *Palaeomanon cratera*. Among Trenton sponges the genus *Zittella* is well represented. Polished sections of a number of sponges with lenses mounted before them in order that the beautiful interior structure may be better seen also form a part of the exhibit. In Hall 36 some of the most striking specimens of the Burlington crinoids obtained in the Fultz collection have been installed in a floor case. The specimens have been, for the most part, mounted on tablets, about eighty of which are in use, and a typical exhibit of these beautiful forms has thus been obtained. Another change in this Hall has been to move the miscellaneous Triceratops bones to a case adjacent to the skull. In order to obtain room for the exhibition of the increasing number of Tertiary fossil mammals obtained in successive Museum expeditions, a complete readjustment of the wall cases in Halls 36 and 59 has been made and the specimens in them rearranged. As now arranged an entire case is devoted to the White River vertebrate fossils, and two cases to Loup Fork vertebrate fossils. Among the important specimens of Loup Fork age placed on exhibition here for the first time are a complete skeleton of *Promerycochaerus* obtained by the expedition of 1906 in Nebraska, and a skeleton of the Miocene camel-giraffe *Oxydactylus longipes* obtained at the same time in Wyoming. The *Promerycochaerus* skeleton is fully articulated and mounted standing; that of *Oxydactylus* has not been articulated and is exhibited in a prone position. The *Promerycochaerus* skeleton is one of few mounted ones in existence. The animal was a member of the Oredont group, of which it was one of the last and largest representatives. The whole group became extinct before Pliocene time. In Hall 60 a number of specimens representing extinct whales and dugongs of Florida have been placed on exhibition. In Hall 61 the position of the Glyptodon mount has been changed so that a broader passageway is secured. In Hall 62 the Ahumada meteorite and some smaller spec-

imens have been placed on exhibition. The large map in this Hall, showing places of meteorite falls in the United States, has also been brought up to date by the addition of all recent falls. New specimens have here and there been added, with some rearrangement, in Halls 63 and 64. In Hall 65 the collection of sand-barite concretions received from Prof. Gould has been added to the concretionary series and the series is now as a whole perhaps the largest and most complete to be seen in any museum. Some small fulgurites have also been mounted and added to the collection of fulgurites in this Hall and some large cave specimens not previously exhibited have been placed on exhibition. In Hall 66 a considerable rearrangement of the specimens in the wall cases has been made in order to permit the introduction of new material, the most important of which is the series of trap dikes in granite obtained by the Curator in Maine. Additional marble slabs received during the year have been installed in Hall 67, and a number of new labels, some of them descriptive, placed with the corresponding specimens. Each important series of marble in this Hall is now provided with a fully descriptive group label. From Hall 69 the entire series of specimens was removed, the cases and specimens cleaned, and the specimens reinstalled. This work will continue to be necessary at intervals in this Hall until dust-proof cases are provided. In Hall 70 the metal trays containing specimens in the form of powders or lumps have been removed, painted to a color uniform with the interior of the cases, and reinstalled. The appearance of the collection as a whole has thus been improved. Labels have also been installed with the collection throughout, the standard label holder being used. Hall 71, devoted to petroleum and its products, has been entirely dismantled preparatory to a complete recasing of the collection. Funds for this purpose have been generously provided by the Standard Oil Company and the construction of the cases is under way. Before reinstallation a complete renovation of the Hall will be made. The principal addition to the installation in Hall 72 has been that of a working model of a twenty-stamp gold mill, which was constructed in the Department after designs made by the Assistant Curator. The model is four feet six inches long, three feet six inches high, and eight inches deep. It is placed in a wall case on the west wall of the Hall. It represents a section of a gold mill with the house in skeleton. Running from a mine not represented is an elevated tramway upon which an ore car is shown. At the end of the tramway is a grizzly or screen with its pile of ore, followed by a crusher of the Blake type modeled in wood, and an ore bin of standard type. This bin is provided with a glass front which permits a view of the crushed ore

within. From the bin two chutes lead to the two ten-stamp mills which are the prominent features of the model. Each mill, exclusive of its concrete foundation, is one foot high and ten inches long. Each consists of a heavy oak framework which supports ten steel stamps working upon steel anvils in a wooden mortar equipped with copper screens. The shaft, cams, and tappets are all of steel while the boxes in which the journals run are, like those of the full-sized mills, of east iron. The flywheel, which is of wood, is driven from a main driving shaft by a leather belt. In one mill the screens in front of the mortar are shown removed to permit a view of the interior. In front of the mill are shown amalgamated copper plates and a launder. The entire model has been built according to the plans and specifications of a standard mill and has been modified only in such ways as the small size has made necessary, or as changes were required in the relative positions of the parts in order to place the model within the space available. The mill has been so constructed that if power were available, it could be run daily without injury, and with a few inexpensive alterations it could be rendered capable of actually treating ore. Another model constructed in the Department and installed in a floor case in this Hall represents a Hartz jig of standard type. Owing to the scarcity of space the model was made upon a small scale, although the details of its structure are complete. The height of the model is six inches, length eight inches, and width four and one-half inches. It is built of wood except the shafting, wheels and eccentrics, which are of steel. The jig is represented as treating a low-grade silver ore, taking the ground ore and yielding three products, gold ore, silver ore, and waste. Like the ten-stamp model this jig is a working model which upon the application of power could be run continuously. In fact the ore beds shown with the model were made by the operation of the model itself. Maps of Colorado and Nevada showing the localities and names of the gold and silver mining districts of those states were prepared by the Assistant Curator and placed upon the walls of the Hall adjacent to the corresponding collections. The work is intended to be continued until all the important mining localities shall be represented. In Halls 76 and 77 the large maps of the Grand Canyon, Eureka Basin, and Auvergne have been framed, and the large photograph of Miles Glacier presented by L. V. Kenkel has been framed and placed on exhibition. There have also been framed and installed in Hall 77 the recently purchased maps of Illinois and the Malaspina Glacier. It was found that the screws used to hold the case sashes in place in Skiff Hall were working loose owing to the wear of the wood. Accordingly metal sockets were provided for

all the sash screws and in place of screws of ordinary type the sash were all fitted with bronzed screws with an interrupted slot of the standard Museum pattern. Both the appearance and safety of the cases have been much improved by this change. In the same Hall considerable rearrangement of the collections has also been made in order to permit the introduction of new material. This material consisted chiefly of series of the rare earths which are coming into increased notice and for which inquiries are often made by visitors. In order to secure the space needed, considerable selection was made among the iron ores, especially those of Lake Superior, so that those of essentially similar appearance might be represented by the smallest possible number of specimens. It was thus found possible to reduce the space which this collection occupied without lessening the educational value of the series. In the readjustment selection was also made so that the series illustrating the lesser metals, such as mercury, tin, aluminum, nickel, cobalt, etc., should indicate as nearly as possible by their extent the relative importance of these metals. Thus the symmetry of the collections has been much improved and space gained for addition of new material. These changes have, however, been restricted to specimens in the wall cases along the south and southeast walls. In one of the floor cases the group of specimens presented by the Utah Copper Company has been installed, space having been secured by the withdrawal of some of the specimens of Lake Superior copper. The new material consists of two large specimens illustrating oxidized and sulphide ore and a series of crushed specimens representing the several stages by which a rich concentrate is obtained from the original low-grade material. A large specimen of martite from Utah has been installed in a floor case, supplementing other large specimens of iron ores. Supplementing this exhibit a series of models illustrating the modern blast furnace and its evolution is in preparation for exhibition in this Hall. The discontinuance of chemical work in the Museum building having been deemed advisable, the portion of Hall 75 previously used as a chemical laboratory has been dismantled and the hood, desks, and apparatus previously in use there have been removed to a building on Jefferson Avenue where partial accommodations have been secured. In the absence of sufficient accommodations the Executive Council of Armour Institute very generously placed the facilities of the chemical laboratories of that institution at the disposal of the Department and an appreciated use has from time to time been made of these facilities. In the paleontological laboratory the following vertebrate material has been prepared during the year: One skull of *Brontotherium ramosum*

prepared and mounted, one skeleton of *Promerycochaerus* mounted and installed, one skeleton of *Oligobunis*, one skull and lower jaw of *Hyaenodon horridus*, one skull and lower jaw of *Merycoidodon gracilis*, two skulls and lower jaws of *Leptauchenia*, and one skull and lower jaw of *Telmatherium* prepared for exhibition and numerous specimens prepared for identification. The fossil vertebrate material in storage has been thoroughly overhauled and the wrappings of many of the specimens poisoned to enhance their preservation. About one thousand feet of new storage shelving have been erected and the specimens placed upon it in order of their field numbers. Thus the frequent moving of the specimens which has been necessary hitherto when any particular specimen was desired, and which was more or less destructive to the specimens, will be largely avoided. Of invertebrate fossils about one thousand specimens collected in Wilmington, Illinois, have been cleaned and identified in the laboratory during the year, and some other preparatory work of the same nature has been done.

The storage collections of both birds and mammals have received thorough disinfections and the exhibits of mammals, especially the large groups, have also been treated with insecticide. Considerable scattered material consisting of undressed hides of large mammals and rough skins of smaller mammals remain to be cared for, but the great mass of it has been cleared away and it seems probable that the one man now left for this work will be able to keep abreast of it. During the year, the entire serial collection of birds on exhibition have been overhauled. These specimens were in temporary cases, not dustproof, and in the course of time had become soiled and dusty. All of them have been thoroughly cleaned and such as needed it have been remounted and installed in new cases. Early in the year the first results of the Stanley Field Ornithology Fund were installed and placed on exhibition in the West Court of the Museum. They consist of four large groups of North American birds in one large case divided into four sections, each with a large painted background and reproduction of foliage, soil, rocks, and natural conditions in which birds live. The groups are as follows: (1) the California Condor, showing two adult birds, one standing near its nest in a recess of a cliff and the other with wings at full spread about to alight. Scene in the mountains of southern California. (2) The American White Pelican, showing several adult birds with their nests and eggs, together with other species, such as Cormorants, which breed with them, and characteristic surroundings on a sandy islet in a Saskatchewan lake. (3) The Wild Turkey, four adult birds in the heavy woods of northern Louisiana. The season represented is autumn

and the richly tinted foliage combines well with the black and bronze of the birds. (4) The Water Birds of Quill Lake, Saskatchewan, including 37 birds of various species, as the Canada Goose, Pintail Duck, Blue-winged Teal, Scaup Duck, Widgeon, Gulls, Terns, and Shore birds. About 100 birds for the serial North American and Illinois collections have been mounted and placed on exhibition. Room 22, which contains the exhibition collection of fishes has been improved by several changes and additions of new groups. Four cases not well suited for the exhibition of fishes have been transferred to the Hall devoted to Osteology. Two new cases have been added, containing 15 groups of mounted fishes. Screens have been made for two other cases and these are ready to be put in place and installed as soon as the material now in course of preparation is finished. During the first half of the year attention was devoted to experimenting to devise the best method for preparing groups of fishes for exhibition, with most satisfactory results. Unfortunately work on several groups of fishes was temporarily discontinued last July, due to the illness of the fish taxidermist, Mr. Heim, who was obliged to seek a different climate, but who is now doing work for the Museum in Arizona and it is hoped he will be able to return to Chicago in the near future. Of the several groups placed on exhibition the largest and in many ways the most exceptional is that of the Tiger Shark with her brood of 44 young. This animal is viviparous and the adult was captured at a time when the young were about to be born. The group is probably unique. During the past year the inventory of the great Strecker collection was completed and considerable time was devoted to work on local insects, such as pinning, labeling, and distributing specimens already in the collection and others secured from time to time by the Assistant Curator and his assistant. 2,800 insects have been pinned and labeled. A large number have been determined and placed in the study collection. During the year the work in the Division of Osteology was continued as usual with satisfactory results. Through the courtesy of Mr. William Warwick, Superintendent of the Standard Oil Company plant at Whiting, Indiana, the facilities for work there were continued, and 38 skeletons and skulls were degreased during the summer. The Assistant Curator made some experiments in working out a satisfactory method of exhibiting specimens without shelves, and a paper was written and read before the meeting of the American Association of Museums at Buffalo, New York, May 31, 1910, on this subject. Mr. Gueret also completed the labeling of specimens and card index of Osteological material to date.

PRINTING.—The number of labels, forms, and other impressions turned out by the Section of Printing is shown in the following table:

	Labels.	Other Impressions.
Department of Anthropology.	3,744	1,900
Department of Botany	4,817	15,950
Department of Geology	3,012	838
Department of Zoology.	72	30,056
Director's Office	9	48,683
Library		12,000

PHOTOGRAPHY AND ILLUSTRATION — The following table indicates the work performed in this important Section:

	Negatives.	Prints.	Lantern Slides.	Enlargements.	Photomac- rography of Seeds, Skulls, etc.
Director's Office.....	22	127	10	6	.
Department of Anthropology	569	2,813	..	.	..
Department of Botany . .	38	251	58	.	15
Department of Geology. .	94	206	113	..	..
Department of Zoology. . .	198	404	166	1	6
Distribution ..	.	121	.	..	.
Gift . . . . .	..	252	1	8	..
Sale ..		561	50	..	..
Totals	921	4,735	398	15	21

Negatives made in the field by members of the staff and developed by the Section of Photography:

Department of Anthropology..	10
Department of Botany. . .	96
Department of Geology. . .	108
Department of Zoology	73
Total	287

ATTENDANCE.—The attendance for the year shows an increase of nearly 10,000 over the previous year. The following is the list of school classes (twenty pupils or more) that visited the Museum during the year:

Schools and Location.	Teachers	Pupils.
Wendell Phillips High — Thirty-ninth Street and Prairie Avenue .	1	62
Wendell Phillips High — Thirty-ninth Street and Prairie Avenue .	1	42
Blue Island — Blue Island, Illinois	3	30
Kenwood — Lake Ave., corner Fiftieth Street	1	40
Moody Bible Institute — 80 Institute Place		55
Chicago Commons — Fifty-seventh Street and Lexington Avenue .		35
Steiglitz — Blue Island, Illinois	2	20
Newberry — Willow and Orchard Streets	2	61
One Hundred and Ninth Street — Blue Island, Illinois	2	38
Our Lady of Vilna — 2347 South Leavitt Street	2	60

Schools and Location.	Teachers.	Pupils.
Wendell Phillips High — Thirty-ninth Street and Prairie Avenue	2	55
Bismarck — Armitage and North Central Park Avenues	2	72
Saunders — Blue Island, Illinois	6	60
Seymour — Blue Island, Illinois	4	115
Harvey — Harvey, Illinois	1	40
Frances E. Willard — Forty-ninth Street and St. Lawrence Avenue	1	40
Wentworth — Seventieth and Sangamon Streets	1	38
Prescott — Wrightwood Avenue, corner North Ashland Avenue	2	60
Vaclava St. Wenceslaus — DeKoven Street, near Jefferson Street	2	30
Seward — Forty-sixth Street and Hermitage Avenue	1	24
Gallistel — Ewing Avenue, near One Hundred and Fourth Street	1	25
Madison Avenue — Seventy-fifth Street and Madison Avenue	2	74
Scanlon — One Hundred and Seventeenth Street and Perry Avenue	5	74
Motley — North Ada Street, near West Chicago Avenue	1	35
Sherman — Fifty-first Place and Morgan Street	1	42
Pullman — Pullman Avenue and One Hundred and Thirteenth Street	2	94
Burke — Fifty-second Street and Prairie Avenue	2	65
University of Chicago — Chicago, Illinois		40
Agassiz — Diversey Boulevard and Seminary Avenue	1	28
Bryant — Riverside, Illinois	3	55
University of Chicago — Chicago, Illinois		45
Garfield — Fourteenth Place and Johnson Street	1	25
St. Benedict — Irving Park Boulevard and Leavitt Street	4	59
University of Chicago — Chicago, Illinois		24
Immaculate Conception — Thirty-first Street and Bonfield Avenue	2	32
Bryant — Riverside, Illinois		20
University of Chicago — Chicago, Illinois		21
University of Chicago — Chicago, Illinois		22
University of Chicago — Chicago, Illinois		26
University of Chicago — Chicago, Illinois		31
Visitation — Garfield Boulevard and Peoria Street	2	33
Thorp Vacation — Eighty-ninth Street and Superior Avenue	1	25
Graham Vacation — Forty-fifth Street and Union Avenue	10	312
University of Chicago — Chicago, Illinois		29
University of Chicago — Chicago, Illinois		24
Nativity — Thirty-seventh Street and Union Avenue	4	25
Jenner Vacation — Oak Street and Milton Avenue	11	97
University Elementary — Fifty-ninth Street and Monroe Avenue	2	32
University Elementary — Fifty-ninth Street and Monroe Avenue	2	36
University Elementary — Fifty-ninth Street and Monroe Avenue	1	33
University of Chicago — Chicago, Illinois		24
Normal Practice — Stewart Avenue and Sixty-eighth Street	2	37
Francis W. Parker — 330 Webster Avenue	4	22
University Elementary — Fifty-ninth Street and Monroe Avenue	1	22
Normal Practice — Stewart Avenue and Sixty-eighth Street	3	38
Thornton Township High — Harvey, Illinois	2	69
Hyde Park High — Fifty-seventh Street and Kimbark Avenue	1	49

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Schools and Location.	Teachers.	Pupils.
Hyde Park High — Fifty-seventh Street and Kimbark Avenue	1	45
University Elementary — Fifty-ninth Street and Monroe Avenue	1	20
Hyde Park High — Fifty-seventh Street and Kimbark Avenue	1	51
Hyde Park High — Fifty-seventh Street and Kimbark Avenue	1	36
James Wadsworth — Lexington Avenue, near Sixty-fourth Street	2	42
University of Chicago — Chicago, Illinois		21
Fernwood — One Hundred and First Street and Union Avenue	1	51
Lewis Institute — West Madison and South Robey Streets	1	35
Holy Trinity — Noble Avenue and Crittenden Street	2	36
Lewis Chaplin — Sixty-second Street and Princeton Avenue	2	27
Waller High — Orchard and Center Streets	2	32
Irving Park — Roscoe and Belmont Avenue	2	25
Chicago Academy of Fine Arts — Madison Street, near Michigan Avenue	1	47
Wendell Phillips High — Thirty-ninth Street and Prairie Avenue		25
Wendell Phillips High — Thirty-ninth Street and Prairie Avenue		30
Carter Practice — Sixteenth Street and Wabash Avenue	2	33
Chicago Kindergarten Association — Chicago, Illinois	5	30
Wendell Phillips High — Thirty-ninth Street and Prairie Avenue	1	33
Wendell Phillips High — Thirty-ninth Street and Prairie Avenue	1	30
Parkside — Seventieth Street and Seipp Avenue	1	32
Henry Clay — One Hundred and Thirty-third Street and Superior Avenue	1	34
Valparaiso University — Valparaiso, Indiana	1	120
Irving Park — Roscoe and Belmont Avenue	1	52
University Elementary — Fifty-ninth Street and Monroe Avenue	1	22
Wendell Phillips High — Thirty-ninth Street and Prairie Avenue		21
Englewood High — Stewart Avenue and Sixty-second Street	3	209
Normal Practice — Stewart Avenue and Sixty-eighth Street	2	33
Wendell Phillips High — Thirty-ninth Street and Prairie Avenue	1	20
University of Nebraska — Lincoln, Nebraska	2	30
Francis W. Parker — 330 Webster Avenue	1	24
Hyde Park High — Fifty-seventh Street and Kimbark Avenue	1	36
Blue Island High — Blue Island, Illinois	1	20
Wendell Phillips High — Thirty-ninth Street and Prairie Avenue	1	30
Chicago Latin — 1200 Michigan Avenue	2	30
Parkside — Seventieth Street and Seipp Avenue	1	39
Wendell Phillips High — Thirty-ninth Street and Prairie Avenue	1	35
Parkside — Seventieth Street and Seipp Avenue	1	54
University of Chicago — Chicago, Illinois		21
John Spry Vacation — Marshall Boulevard and West Twenty-fourth Street	11	257
University of Chicago — Chicago, Illinois		24
University of Chicago — Chicago, Illinois		20
University of Chicago — Chicago, Illinois		25
University of Chicago — Chicago, Illinois		25
University of Chicago — Chicago, Illinois		40
University of Chicago — Chicago, Illinois		35



MINIATURE TINGUIAN VILLAGE.
Luzon Island, P. I.

Schools and Location.	Teachers.	Pupils.
Marks Nathan Jewish Orphan — 1243 North Wood Street . . .	1	51
Parkside — Seventieth Street and Seipp Avenue	2	26
Moody Bible Institute — 80 Institute Place		20
Lake High — Union Avenue and West Forty-seventh Street . . .	1	42
May — South Fiftieth Avenue, corner West Harrison Street . . .	1	20
Jewish Training — 554 West Twelfth Place	5	60
Gresham — Eighty-fifth and Green Streets	2	35
Washington — Morgan and Erie Streets	4	44
Bryant — Forty-first Court near Fourteenth Street	1	20
Joseph Medill — Fourteenth Place near Throop Street	1	39
Marquette — Harrison and Wood Streets	2	21
Normal Practice — Stewart Avenue and Sixty-eighth Street . . .	3	49
University Elementary — Fifty-ninth Street and Monroe Avenue . .	2	32
Baptist Mission Training — 2969 Vernon Avenue		20
Hyde Park High — Fifty-seventh Street and Kimbark Avenue . . .	1	46
Kenwood — Lake Avenue and Fiftieth Street	2	46
Northern Illinois Teachers Association	379	
Wendell Phillips High — Thirty-ninth Street and Prairie Avenue . .	1	24
Forest Park — Forest Park, Illinois	1	55
St. James — Twenty-ninth Street and Wabash Avenue	2	27
University of Chicago — Chicago, Illinois		25
Kosminsky — Fifty-fourth Street and Ingleside Avenue	1	39
James Wadsworth — Sixty-fourth Street and Lexington Avenue . .		127
Farragut — Spaulding Avenue and Twenty-third Street	1	35
Anderson — Lincoln and Division Street	1	53
University of Chicago — Chicago, Illinois	1	27
School of Education — Fifty-ninth Street and Monroe Avenue . . .	1	29

Herewith are also submitted financial statements, list of accessions, names of members, etc.

FREDERICK J. V. SKIFF,
Director.

FINANCIAL STATEMENT.

GENERAL ACCOUNT.

RECEIPTS AND DISBURSEMENTS.

January 1, 1910, to December 31, 1910

RECEIPTS

Cash in Treasurer's hands, December 31, 1909.	\$65,914.41	
Petty Cash on hand, December 31, 1909	739.95	
Dues of Annual Members.	1,510.00	
Admissions and Check Rooms	6,371.00	
South Park Commissioners	15,000.00	
Interest on Investments	38,712.88	
Field Endowment Income	137,149.99	
Interest on Daily Balances	1,044.74	
Sundry Receipts and Refunds	2,702.47	
Sale of Guides	181.25	
Stanley Field Ornithology Fund	1,000.00	
Field-Sprague Ornithology Fund	1,321.25	
R. F. Cummings' Philippine Fund	3,000.00	
Joseph N. Field South Pacific Islands Fund	10,000.00	
Huntington W. Jackson Library Fund	40.00	
Standard Oil Fund	2,588.75	
Stanley McCormick Hopi Fund	1,000.00	
Mrs. Timothy B. Blackstone Fund.	10,000.00	
Special Donations—		
Bryon L. Smith	\$500.00	
William J. Chalmers	500.00	
Stanley Field	199.61	
George Manierre	199.61	
Watson F. Blair	199.61	
Edward E. Ayer	199.61	
George F. Porter	199.62	
Richard T. Crane, Jr.	199.62	
	<hr/>	2,197.68
Homer E. Sargent Fund		50.00
Marshall Field Endowment Sinking Fund		500.00
Marshall Field Endowment Sinking Fund Income Account		50.00
New Building, Moving and Furnishing Fund Income		2,900.00
		<hr/>
		\$303,974.37

DISBURSEMENTS

Salaries		\$81,514.98
Guard Service		13,223.40
Janitor Service		7,612.15
Fire Protection		3,350.04
Heat and Light—		
Wages	\$ 3,449.82	
Fuel	6,452.35	
Supplies, Gas, etc	1,335.67	11,237.84
Repairs and Alterations—		
Wages of Carpenters, Painters, Roofers, etc.	10,800.06	
Material used, paints, oils, glass, lumber, plaster, etc.	1,411.07	
Special Exterior Repairs	6,076.75	18,287.88
Furniture and Fixtures—		
Cases and Bases	12,638.90	
Building Fixtures	2,967.10	
Office Furniture, etc.	323.01	15,929.01
The Library —		
Books and Periodicals	2,196.83	
Binding	795.35	
Sundries	51.97	2,954.15
Sections of Printing and Photography		955.46
Collections, etc., Purchased		15,193.87
Departmental Expenses		5,950.40
Expeditions		5,107.92
Publications		2,237.05
General Expense Account —		
Freight, Expressage and Teaming	7,027.33	
Stationery, Postage, Telephone, etc.	1,136.17	
Northern Trust Company, Custodian Fee	338.66	
Lecture Course Expenses	975.95	
Insurance	245.74	
Sundries	1,098.38	10,822.23
Stanley Field Ornithology Fund		853.65
Field-Sprague Ornithology Fund		1,279.34
R. F. Cummings' Philippine Fund		3,108.80
Joseph N. Field South Pacific Islands Fund		5,600.00
Mrs. Timothy B. Blackstone Fund		10,000.00
Homer E. Sargent Fund		25.15
Guide Account, Ninth Edition		766.52
		\$216,009.84
In Treasurer's hands December 31, 1910	30,724.58	
Byron L. Smith, Treasurer, Endowment Sinking Fund	500.00	
Petty Cash on hand December 31, 1910	739.95	
New Building, Moving and Furnishing Fund Investment	20,000.00	
General Fund Investment Account	36,000.00	87,964.53
		\$303,974.37

ATTENDANCE AND RECEIPTS FROM JANUARY 1, TO DECEMBER 31, 1910.

ATTENDANCE			
Paid Attendance —			
Adults	22,507		
Children	1,500	24,007	
Free Admission on Pay Days —			
School Children	5,861		
Students	3,206		
Teachers	942		
Members: Corporate	75		
Annual	43		
Life	6		
Officers' Families	115		
Special	662		
Press	6	10,916	
Admission on Free Days —			
Saturdays	39,122		
Sundays	144,002	183,124	
Total Attendance.		218,047	
Highest Attendance on any one day (August 28, 1910) .		6,776	
Highest Paid Attendance on any one day (September 5, 1910)		552	
Average Daily Admissions (365 days)		597	
Average Paid Admissions (260 days)		87	

RECEIPTS.

Guides sold — 725 at 25 cents each	\$181.25
Articles Checked — 11,885 at 5 cents each	594.25
Admissions	5,776.75
	\$6,552.25

ACCESSIONS.

DEPARTMENT OF ANTHROPOLOGY.

(ACCESSIONS ARE BY GIFT UNLESS OTHERWISE DESIGNATED.)

AYER, E. E., Chicago.

Etruscan jar.

BLACKSTONE, MRS. T. B., Chicago.

Ethnological material — China, India and Tibet (collected by Berthold Laufer).

CHALMERS, WILLIAM J., SMITH, BYRON L., Chicago.

Archaeological material — Illinois.

CUMMINGS, R. F., Philippine Expedition

General ethnological collection — North Central Mindanao (Collected by F. C. Cole).

Ifugao bench — Luzon, Philippine Islands (Collected by Geo. A. Dorsey).

General ethnological collection — Luzon (Collected by William Jones).

General ethnological collection — Luzon (Collected by S. C. Simms).

9 Ifugao skulls — Luzon (Collected by S. C. Simms).

1 Ilongot skull — Luzon (Collected by S. C. Simms).

EGYPTIAN EXPLORATION FUND.

Fragment of small lapis lazuli hawk — Abydos, Egypt.

FIELD, JOSEPH N., Manchester, England. South Pacific Islands' Fund.

General ethnological collection — German New Guinea (Collected by A. B. Lewis).

FIELD MUSEUM OF NATURAL HISTORY.

Collected by Alfred R. Brown:

General ethnological collection — Andaman and Nicobar Islands.

Purchases:

Collection of spears, arrows, knives from Congo and Soudan

Alabaster and pottery mortuary jars, etc. — Northern Africa.

Collection of Algerian jewelry.

Collection of Belgian archaeology.

20 masks of buckskin worn in "Ya vi chy" dance of the Navaho Indians.

Steatite jar — Little Warm Spring Creek, Wyoming.

HAGERTY, T. A., Chicago.

Ancient Egyptian bronze figurine of Goddess Isis.

LATHROP, BARBOUR, Chicago.

Royal sarong — Jokjokerta, Java.

NIGHSWONGER, JAS., Harrisburg, Banner County, Nebraska

Pottery bowl — Banner County, Nebraska.

MOOREHEAD, WARREN K., Andover, Massachusetts.

Cave material from Jacob's Cavern, Missouri, and Bushey Cavern, Maryland (exchange).

O'NEILL, Dr., JOHN W., Chicago.

Stone carving of rattlesnake — Mexico.

SARGENT, HOMER E., Chicago.

Collection of ethnological material, Salish Indians — British Columbia.

DEPARTMENT OF BOTANY.

(ACCESSIONS ARE BY GIFT UNLESS OTHERWISE DESIGNATED.)

BARNES, CAPT. F. S., Hillsboro, Oregon.

Oregon Yew bow.

BATCHELDER, C. F., Cambridge, Massachusetts.

1 herbarium specimen — Massachusetts.

BLUMER, J. C., Tucson, Arizona.

33 herbarium specimens — Arizona.

BUTLER, GEORGE D., Yreka, California.

11 herbarium specimens — California.

22 herbarium specimens — California.

23 herbarium specimens — California.

CALKINS, W. W., Berwyn, Illinois.

23 herbarium specimens — Illinois.

CHAMBERLAIN, DR. C. J., Chicago.

1 *Macrozamia Fraseri* (micro- and macro-sporophylls) — West Australia.

CONZATTI, CASSIANO, Oaxaca de Juárez, Mexico.

41 herbarium specimens — Mexico.

COULTER, J. M., Chicago

1 herbarium specimen — California.

1 herbarium specimen — Texas.

1 herbarium specimen — Ohio.

1 herbarium specimen (cultivated specimen of *Nephrolepis exaltata*)

CROSBY, MISS GRACE, Chicago.

2 herbarium specimens — Illinois.

CUSICK, W. C., Union, Oregon.

10 herbarium specimens — Oregon

DEAM, CHAS. C., Bluffton, Indiana.

1 herbarium specimen — Indiana.

2 herbarium specimens — Indiana.

DEANE, WALTER, Cambridge, Massachusetts.

28 herbarium specimens — United States and Germany.

1 herbarium specimen — New Hampshire.

27 herbarium specimens — Maine, Massachusetts and New Hampshire.

EBERHART, MRS. C. H., Los Angeles, California.

3 herbarium specimens — California.

EPPLESHEIMER, MRS. A. P., Cristobal, Canal Zone.

49 herbarium specimens — Canal Zone.

3 herbarium specimens — Canal Zone.

FIELD MUSEUM OF NATURAL HISTORY.

Collated by J. M. Greenman:

- 1 photograph of *Castilleja Covilleana* Henderson.
- 2 illustrations of plants.
- 88 herbarium specimens — Yucatan and Mexico.

Collated by C. F. Millsbaugh:

- 1 *Polyporus lucidus* (Fungus).
- 47 economic specimens.
- 2 herbarium specimens — Bahamas.

Collected by R. A. Dixon:

- 143 herbarium specimens — Texas.

Collected by H. H. Smith:

- 43 herbarium specimens — Georgia.
- 10 dry fruits — Georgia.
- 1 fruit in formalin — Georgia.
- 403 economic specimens — Georgia.
- 56 economic specimens — Oregon.

Purchases:

- 703 herbarium specimens — California, Idaho, Montana, Nevada, Oregon, Utah and Wyoming.
- 323 herbarium specimens — Arizona.
- 222 herbarium specimens — Tobago and Trinidad.
- 187 herbarium specimens — Oregon.
- 96 herbarium specimens — United States.
- 384 herbarium specimens — Philippine Islands.
- 501 herbarium specimens — United States and Canada.
- 526 herbarium specimens — Mexico.
- 1500 herbarium specimens — Bahamas and Cuba.

Modeled by B. E. Dahlgren:

- 1 sweet potato vine and flowers.
- 13 models of plants — Jamaica and Indiana.
- 5 models of plants — Jamaica and Indiana.
- 4 models of plants — Jamaica and Illinois.
- 3 models of flowers — Jamaica.

Modeled by H. O. Mueller:

- 2 models *Carica Papaya* and *Theobroma Cacao*.

FULLER, GEORGE D., Chicago.

- 17 herbarium specimens — Alberta, Canada.

FURNESS, DWIGHT R.

- 13 herbarium specimens — Mexico.

GEOLOGICAL SURVEY OF CANADA, Ottawa, Ontario, Canada.

- 24 herbarium specimens — Vancouver Island and Yukon.

GRAY HERBARIUM, Cambridge, Massachusetts.

- 1 herbarium specimen — Mexico.

GREENMAN, J. M., Chicago.

- 4 herbarium specimens (Cultivated).
- 1 herbarium specimen — Mexico.

GRUBB, MRS. R. W., Darien, Georgia.

- 1 *Sesamum indicum* "Benny candy" — Georgia.
- 1 *Sesamum indicum* "Benny seed" — Georgia.

- HAMILTON MANUFACTURING COMPANY, Two Rivers, Wisconsin.
 7 wood blocks and type.
- HARRISON, A. K., Winchester, Massachusetts.
 2 herbarium specimens — Massachusetts.
- LAND, W. J. G., Chicago.
 1 *Ginkgo biloba* — fruit — Indiana.
- LANSING, O. E., Jr., Chicago.
 128 herbarium specimens — Illinois, Indiana and Michigan.
 3 economic specimens — Illinois.
- LUNELL, DR. J., Leeds, North Dakota.
 1 herbarium specimen — North Dakota.
- MILLSPAUGH, C. F., Chicago.
 46 plates from "American Medicinal Plants."
 6 plates of North American plants.
 1 *Sambucus racemosa* L — Ephraim, Wisconsin.
- MISSOURI BOTANICAL GARDEN, St. Louis, Missouri.
 2 original descriptions of plants (exchange).
- MITCHELL, MISS CLARA J., Chicago.
 1 flax hackle.
- MOSELEY, E. L., Sandusky, Ohio.
 18 herbarium specimens — Ohio, Louisiana and Ontario (exchange).
 45 herbarium specimens — Louisiana (exchange).
- NEVADA AGRICULTURAL EXPERIMENT STATION, Reno, Nevada.
 10 herbarium specimens — Nevada.
- NEWCOMBE, C. F., Victoria, British Columbia.
 2 herbarium specimens — British Columbia.
- NEW YORK BOTANICAL GARDEN, New York, N. Y.
 1 herbarium specimen — Great Bahama Island (exchange).
 61 herbarium specimens — Jamaica (exchange).
 4 herbarium specimens — Cuba (exchange).
 2 herbarium specimens — Jamaica (exchange).
 5 herbarium specimens — Bahamas (exchange).
 262 herbarium specimens — Jamaica and Florida (exchange).
 119 herbarium specimens — Cuba and Bahamas (exchange).
 581 herbarium specimens — United States, Mexico and West Indies
 (exchange).
 1 herbarium specimen — Crooked Island, Bahamas (exchange).
 1 herbarium specimen — Andros, Bahamas (exchange).
- ORCUTT, C. R., San Diego, California.
 242 herbarium specimens — Mexico.
 202 herbarium specimens — Mexico.
 388 herbarium specimens — Mexico.
 262 herbarium specimens — Mexico.
 180 herbarium specimens — Mexico.
- PEABODY MUSEUM, Salem, Massachusetts.
 2592 herbarium specimens.
- PIPER, CHAS. V., Washington, D. C.
 1 herbarium specimen — Washington.

- ROSENDAHL, C. O., Minneapolis, Minnesota.
 22 herbarium specimens — Alberta, British Columbia and Vancouver Island.
- SHULL, CHARLES A., Lexington, Kentucky.
 1 herbarium specimen — Kentucky.
- SMITH, H. H., Chicago.
 2 herbarium specimens — Illinois.
- TOWER, W. L., Chicago, Illinois.
 19 herbarium specimens — Mexico.
 6 herbarium specimens — University of Chicago Greenhouse.
 8 herbarium specimens — University of Chicago Greenhouse.
- TOWNE, MRS. H. A., Harvard, Illinois.
 107 herbarium specimens — Washington.
- TRELEASE, WM., St. Louis, Missouri.
 1 herbarium specimen — Texas.
 2 herbarium specimens — Mexico.
- UNITED STATES NATIONAL MUSEUM, Washington, D. C.
 21 plates Algae (exchange).
 12 plates phanerogams (exchange).
 520 herbarium specimens — Idaho, Oregon and Washington (exchange).
 364 herbarium specimens — United States, Canada, Europe and Australia (exchange).
- WOLCOTT, A. B., Chicago.
 20 herbarium specimens — Illinois.

DEPARTMENT OF GEOLOGY.

(ACCESSIONS ARE BY GIFT UNLESS OTHERWISE DESIGNATED.)

- BECKER, G. A., Clermont, Iowa.
 1 slab of brachiopods and worm tubes — Patterson's Springs, Iowa.
 15 specimens invertebrate fossils — Clermont, Iowa (exchange).
- BEERS, CHARLES H., Eustis, Florida.
 5 specimens gem smithsonite — San Pedro, Chihuahua, Mexico.
- BLACK, H. M., Salt Lake City, Utah.
 1 specimen ozocerite in matrix — Kyune, Utah.
- BÖHM, JULIUS, Vienna, Austria.
 1 specimen hambergite — Madagascar (exchange).
- BRITISH MUSEUM, London, England.
 2 specimens meteorites — Africa and Australia (exchange).
- CHALMERS, WILLIAM J., AND SMITH, BYRON L., Chicago.
 3,500 specimens fossil sponges — Tennessee.
 1,500 specimens invertebrate fossils — Bridgeport, Chicago area.
 3,000 specimens invertebrate fossils — Mississippi Valley.
- DEPARTMENT OF AGRICULTURE, SYDNEY, N. S. W.
 5 pounds Bulli soil — Bulli, New South Wales.
- DOHMEN, U. A., Chicago.
 1 map of Colorado.
- DURANT, H. L., Prairie City, Oregon.
 1 specimen gold ore — Dixie Gulch, Prairie City, Oregon.

FIELD MUSEUM OF NATURAL HISTORY.

Collected by O. C. Farrington:

- 106 specimens minerals, 10 specimens illustrating the feldspar industry,
- 7 specimens dikes in granite, 3 specimens till, 1 specimen rock,
- 4 specimens fossils — Central Maine.

Collected by E. S. Riggs:

- Upper Eocene vertebrate fossils as follows: 12 specimens *Telmatherium*,
- 11 specimens *Dolichorhinus*, 4 specimens *Palaeosyops*, 3 specimens
- Uintatherium*, 1 specimen *Eobasileus*, 1 specimen *Tillotherium*,
- 1 specimen *Mesonyx*, 1 specimen *Amynodon*, 1 specimen creodont,
- 2 specimens artiodactyls, 3 specimens testudos, 1 specimen crocodile;
- 8 specimens invertebrate fossils, 2 specimens glauconite, 1 specimen
- oolite — Northeastern Utah.

Collected by A. W. Slocum:

- 2,631 specimens invertebrate fossils, 16 specimens geodes and concretions,
- 3 specimens rocks, 14 specimens agates, 1 specimen clay — North-
- eastern Iowa.
- 150 specimens invertebrate fossils — Petoskey and Keweenaw, Michigan.
- 266 specimens invertebrate fossils — Wilmington, Illinois.

Purchases:

- 2 relief maps.
- 1 calcite crystal — Joplin, Missouri.
- 1 skull of *Hyaenodon* — Bad Lands, South Dakota.
- 1 complete meteorite (weight 116 pounds) — Ahumada, Mexico.
- 6 specimens fossil figs — Converse County, Wyoming.
- 2 specimens gold — Mariposa, California.

GOULD, CHAS. N., Norman, Oklahoma.

- 15 specimens sand-barite concretions — Eastern Oklahoma.

GRAVES, F. P., Doe Run, Missouri.

- 1 specimen twin calcite crystal — Joplin, Missouri.

GRIMES, M. W., West Union, Iowa.

- 9 specimens sand-marcasite concretions — Miles City, Montana.
- 2 specimens invertebrate fossils — Hackberry, Iowa.
- 1 specimen fossiliferous limestone — Vernon, Indiana.

GRIGAN, F. JUSTICE, Philadelphia, Pennsylvania.

- 1 etched section and fragment of Shrewsbury meteorite

JOHNSTON, W. M., Chicago.

- 1 specimen gold ore — Animas Forks, Colorado

JUDD, L. S., Vicksburg, Arizona.

- 4 specimens copper-silver ore — Yuma County, Arizona.

MILLS, W. M., Pawnee, Oklahoma.

- 22 specimens residual boulders of gypsum, 4 specimens gypsum,
- 3 specimens rocks associated with gypsum — Pawnee, Oklahoma.

MINING WORLD, Chicago, Illinois.

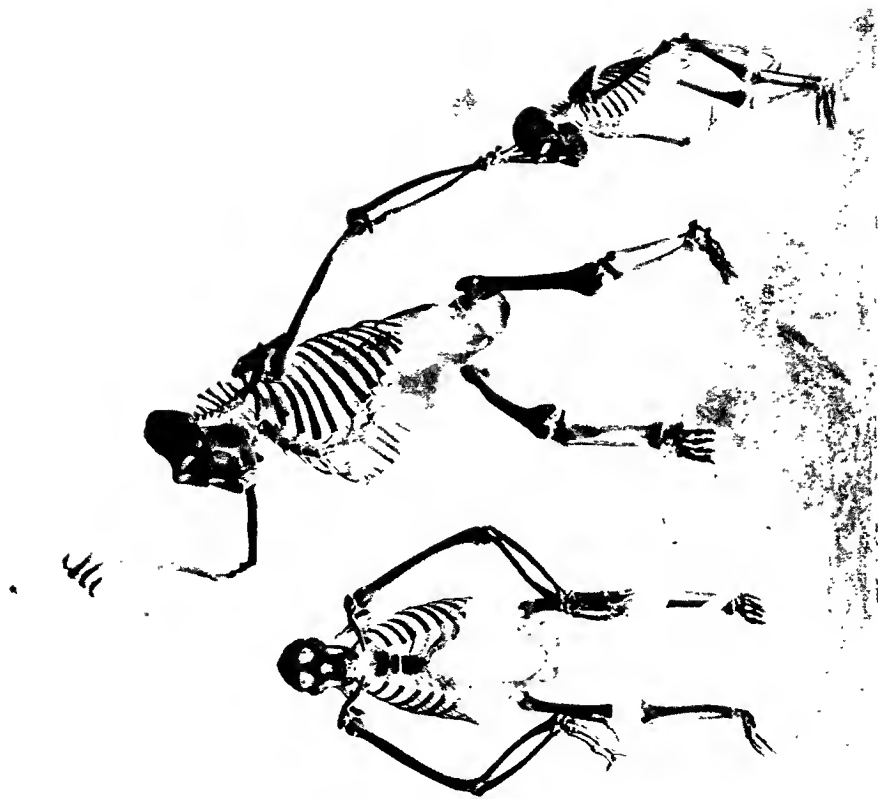
- 1 specimen silver ore — Portland Canal, British Columbia.

MORTON, E., Chicago.

- 1 septarium — St. Louis, Missouri.

NICHOLS, H. W., Chicago.

- 12 specimens claystones, 1 specimen silicified asbestos — Porcupine
- Ontario



SKELETONS OF GORILLAS (*Gorilla gorilla*).
From the Congo Region, Africa. Male, female and young.

- NORDGREN, P. E., Kenosha, Wisconsin.
15 specimens invertebrate fossils — Pennsylvania (exchange).
- REA, THOS. H., Chicago.
10 specimens gold and silver ores — Cobalt and Porcupine, Ontario.
- RHONE, HENRY R., Grand Junction, Colorado.
1 specimen elaterite — Fort Duchesne, Utah County, Utah.
- SHELBY, H. G., Burlington, Iowa.
12 specimens crinoids — Burlington, Iowa (exchange).
- SLOCOM, MARTHA M., Chicago.
634 specimens invertebrate fossils — Bay View, Michigan.
- THURSTON, DR. F. A., Chicago.
1 specimen cyanite — Shawanaga, Ontario.
- UNIVERSITY OF BRISTOL, Bristol, England.
63 specimens invertebrate fossils — England (exchange).
- UTAH COPPER COMPANY, Salt Lake City, Utah.
2 large specimens copper ore, 20 specimens concentrates — Bingham Canyon, Utah.
- WELLINGTON, J. L., Chicago.
1 specimen diatomaceous earth — Boise, Idaho.
- WESTFIELD MARBLE & SANDSTONE COMPANY, Westfield, Massachusetts.
3 polished slabs of marble — Westfield, Massachusetts
- WILLITS, E. D., Milwaukee, Wisconsin.
2 specimens crystallized calcite — Pewabic Mine, Iron Mountain, Michigan.
- ZOELLNER, PAUL, Plainfield, Ohio.
1 limonite concretion — Coshocton County, Ohio.
- ZDENEK, PASMA, Farrar, Iowa.
1 specimen jasper — Farrar, Iowa.

DEPARTMENT OF ZOOLOGY.

(ACCESSIONS ARE BY GIFT UNLESS OTHERWISE DESIGNATED.)

- ABBAY, E. S., Chicago.
1 wasp — Chicago, Illinois.
- ARMSTRONG, EDWARD E., Chicago, Illinois.
1 American bittern — Lake County, Illinois.
- BILLINGS, DR. FRANK, Chicago.
1 large sawfish — Tampico, Mexico.
1 Tarpon skin — Tampico, Mexico.
- CARNEGIE MUSEUM, Pittsburgh, Pennsylvania.
530 fishes — British Guiana (exchange).
- CRANE, R. T., Chicago.
1 mounted Whooping crane.
- COALE, HENRY K., Highland Park, Illinois
1 mink — Deerfield Lake Co., Illinois.
77 bird skins (exchange).
- CORY, C. B., Chicago.
1 hoary bat — Lake Geneva, Wisconsin.

DUEBLER, L., Chicago.

2 cockroaches — Chicago, Illinois.

1 katydid — Hessville, Indiana.

EVANS, WALLACE, Oak Park, Illinois.

1 skeleton of pheasant — Oak Park, Illinois.

1 female Elliot's pheasant.

FIELD, MARSHALL & CO., Chicago.

1 mounted angora goat.

FIELD MUSEUM OF NATURAL HISTORY.

Collected by Julius Friesser:

4 young hawks and nest — Long Lake, Tawas, Michigan.

1 black tern — Long Lake, Tawas, Michigan.

1 salamander — East Tawas, Michigan.

4 snakes — East Tawas, Michigan.

Collected by William J. Gerhard:

1939 spiders, centipedes, millipedes, dragonflies, crickets, grasshoppers, bugs, butterflies, moths, beetles, flies, bees, wasps, etc. — Southern Illinois.

183 mosquitoes — Northern Illinois and Northern Indiana.

7 midges — Northern Illinois and Northern Indiana.

553 dragon-flies, grasshoppers, bugs, butterflies, moths, flies, beetles, bees, wasps and parasites, etc. — Northern Illinois and Northern Indiana.

Collected by E. L. Mosley:

1 lizard — West Carrol Parish, Louisiana.

3 snakes — West Carrol Parish, Louisiana.

3 salamanders — West Carrol Parish, Louisiana.

11 toads — West Carrol Parish, Louisiana.

1 frog — West Carrol Parish, Louisiana.

Collected by Wilfred H. Osgood:

1 myrtle warbler — Lac Vieux Desert, Wisconsin.

1 Lincoln's finch — Lac Vieux Desert, Wisconsin.

1 house wren — Galena, Illinois.

125 caddiceflies, bugs, butterflies, moths, beetles, flies, bees, wasps, etc. — Northern Illinois and Northern Wisconsin.

108 small mammals — Wisconsin and Illinois.

Collected by L. L. Pray:

1 racoon skull — Madison Parish, Louisiana.

28 small mammals — Dowagiac, Michigan.

Collected by Henry F. Raven:

98 bird skins — Costa Rica.

168 bird skins — Limon, Costa Rica.

1 monkey — Limon, Costa Rica.

7 squirrels — Limon, Costa Rica.

1 bat — Limon, Costa Rica.

1 alligator — Limon, Costa Rica.

2 peccary skulls — Limon, Costa Rica.

1 mantis — Limon, Costa Rica.

1 beetle — Limon, Costa Rica.

- 2 beetles — Limon, Costa Rica.
- 1 caiman — Limon, Costa Rica.
- Collected by E. S. Riggs:
 - 1 sand-cricket — Dragon, Utah.
 - 2 beetles — Dragon, Utah.
- Collected by E. S. Riggs and J. B. Abbott:
 - 6 snakes — Dragon, Utah.
 - 16 homer toads — Dragon, Utah.
 - 50 lizards — Dragon, Utah.
 - 1 bat — Dragon, Utah.
- Collected by A. W. Slocum.
 - 1 beetle — Clermont, Iowa.
 - 1 grasshopper — Clermont, Iowa.
 - 2 bugs — Clermont, Iowa.
 - 2 bees, wasps, etc. — Clermont, Iowa.
 - 2 dragonflies — Brainard, Iowa.
 - 1 beetle — Brainard, Iowa.
 - 3 beetles — West Union, Iowa.
- Collected by H. H. Smith:
 - 2 turtles — Darien, Georgia.
- Collected by A. B. Wolcott:
 - 1 Carolina rail — Jackson Park, Chicago.
 - 461 nerve-wings, dragonflies, grasshoppers, bugs, beetles, flies, bees, wasps, etc., — Illinois and Northern Indiana.
- Purchases:
 - 2 golden eagles — Bozeman, Montana.
 - 1 California condor.
 - 1 wild turkey — Sussex County, Virginia.
 - 1 great horned owl — Bogota, Illinois.
 - 30 bird skins.
 - 710 bird skins.
 - 231 bird skins — China.
 - 1 Pacific walrus.
 - 11 small mammals — China.
 - 4 opossums — Bogota, Illinois.
 - 2 musk rats — Maine.
 - 33 mammals — State of Washington.
 - 72 South American mammals.
 - 182 mammals — Beaver Dam, Wisconsin.
 - 4 beetles — Darjeeling, India.
 - 30 moths — Darjeeling, India.
 - 210 butterflies — Darjeeling, India.
 - 5 mounted reptiles — Europe.
 - 1 small rodent — Darjeeling, India.
 - 5 gorilla skeletons — West Africa.
 - 8 chimpanzee skeletons — West Africa.
 - 6 mounted gorillas — West Africa.
 - 11 mounted chimpanzees — West Africa.
 - 2 gorilla skulls — West Africa.

- 3 chimpanzee skulls — West Africa.
- 6 wood rats — Wolf Lake, Illinois.
- 1 skeleton of great auk — Funk Island.
- 23 mammals.
- 2 bear skins — Kenai, Alaska.
- 2 bear skulls — Kenai, Alaska.
- 17 bird skins — Mexico.
- 1 golden eagle sternum.
- FOSS, S. D., Chicago.
 - 1 molar tooth of a horse — Colorado.
- FREEMAN, C., Puerto Viejo, Margarita Island, Venezuela.
 - 1 deer — Margarita Island, Venezuela.
- FRIESSER, JULIUS, Chicago.
 - 1 beetle — Miller, Indiana.
 - 1 beetle — Mikado, Michigan.
 - 2 beetles — Liverpool, Indiana.
 - 1 beetle — Liverpool, Indiana.
 - 1 bison skull — Fort Pierre, South Dakota.
 - 1 snowy owl skeleton — Woodruff, Wisconsin.
 - 1 katydid — Liverpool, Indiana.
 - 4 beetles — Liverpool, Indiana.
- GILL, DR. G. M., Chicago.
 - 11 parasites — Chicago.
- GUERET, E. N., Chicago.
 - 2 large mouth black bass — Little Bass Lake, Wisconsin.
 - 1 bug — Sayner, Wisconsin.
 - 1 hornet — Sayner, Wisconsin.
 - 5 beetles — Sayner, Wisconsin.
 - 1 spider — Sayner, Wisconsin.
 - 2 spiders — Sayner, Wisconsin.
- ISMOND, R. E., Chicago.
 - 1 brain coral — Bermuda Islands.
- KWIAT, ALEX., Chicago.
 - 1 mosquito — Hessville, Indiana.
- LARKIN, T. J., Chicago.
 - 2 bugs — Midway, W. Va.
 - 5 beetles — Midway, W. Va.
- MCCREA, W. S., Chicago.
 - 1 saw of sawfish — Gulf of Mexico.
- MICHIGAN UNIVERSITY, Ann Arbor, Michigan.
 - 1 rainbow trout — Saginaw Bay, Michigan.
- MOSELEY, E. L., Sandusky, Ohio.
 - 1 white footed mouse — West Carroll Parish, Louisiana (exchange).
- MUNZNER, H., Chicago.
 - 37 bugs, grasshoppers, crickets, beetles, flies, bees, wasps, etc. — Northern Illinois, Northern Indiana, California.
- MUSEUM OF COMPARATIVE ZOOLOGY, Cambridge, Massachusetts.
 - 57 small mammal skins with their skulls (exchange)
- NORDGREN, REV. P. E., Kenosha, Wisconsin.
 - 9 water shells — Weekiva R., Lake County, Florida (exchange)

- PLUM, MRS. D. C., Chicago.
 1 cockroach (this specimen no doubt was brought with fruit from some port in the West Indies or Tropical America).
- PRAY, L. L., Chicago.
 2 mice — Chicago.
 1 bat — Chicago.
- REED, E. D., Chicago.
 1 walking-stick — Fort Thomas, Kentucky.
- ROMANO, JOE, Chicago, Illinois.
 1 moth — Chicago.
 1 Tennessee Warbler — Jackson Park, Chicago.
 1 olive-backed thrush — Jackson Park, Chicago.
- RIGGS, E. S., Chicago.
 1 mountain sheep skull — Sheep Mountain, South Dakota.
- SELONS, F. C., Worplesdon, Surrey, England.
 2 European moles — Worplesdon, Surrey, England.
- SLOCOM, A. W., Chicago.
 1 pseudoscorpion — Chicago.
- THOMAS, OLDFIELD, London, England.
 3 pigmy squirrels — Boentoh, Borneo and London, England.
 1 common European mole.
- THOMPSON, S. L., Toronto, Canada.
 1 fly — Toronto.
 1 bumblebee — Toronto.
 1 beetle — Toronto.
 3 dragonflies — Toronto.
 1 nervewing — Toronto.
 1 dragonfly — Toronto.
 1 parasite — Toronto.
- TOMS, MRS. D. B., Chicago.
 1 humming bird — Chicago.
- WALLACE, W. L., Chicago.
 1 snake — Durango, Mexico.
- WILLARD, O. T., Chicago.
 1 evening grosbeak — Jackson Park, Chicago.
- WILLARD, F. C., Tombstone, Arizona.
 25 moths — Tombstone, Arizona.

SECTION OF PHOTOGRAPHY.

(ACCESSIONS ARE BY GIFT UNLESS OTHERWISE DESIGNATED.)

FIELD MUSEUM OF NATURAL HISTORY.

Made by C. H. Carpenter:

- 921 negatives Museum specimens, etc., 4,735 prints.
 398 lantern slides, 15 enlargements, 287 negatives developed for field expeditions, 21 photomicrographs of skulls, seeds, etc.

Made by C. A. Corwin:

- 7 photographs of landscapes.
 12 photographs of landscapes — Montana.

Made by O. C. Farrington:

6 photographs of landscapes — Maine.

Purchases:

404 portraits, views, etc., made in India.

403 portraits of natives, street scenes, etc. — India.

8 lantern slides — The Colorado River.

9 lantern slides — The Colorado River.

4 hand colored lantern slides — The Colorado River.

Made by S. E. Meek:

30 photographs of landscapes.

Made by W. H. Osgood:

12 photographs of landscapes — Michigan.

Made by E. S. Riggs:

102 photographs of landscapes — Utah.

Made by S. C. Simms:

241 photographs of natives — Philippine Islands.

Made by A. W. Slocum:

12 photographs of landscapes.

Made by H. H. Smith:

96 photographs of trees — Georgia.

SEEMEYER, DR. VILABID, Budapest, Hungary.

104 photographs illustrating the physical types and house life of the different nationalities of Hungary (exchange).

THE LIBRARY.

BOOKS, PAMPHLETS, AND SERIALS.

(ACCESSIONS ARE BY EXCHANGE UNLESS OTHERWISE DESIGNATED.)

ACIREALE ACCADEMIA DI SCIENZE, Acireale, Italy.

Rendiconti e memorie. Atti, ser. 3a, v. 6.

ALABAMA AGRICULTURAL EXPERIMENT STATION, Auburn, Alabama.

Annual report, 1908, 1909, 1910.

Bulletin, current numbers (gift).

ALABAMA ANTHROPOLOGICAL SOCIETY, Montgomery, Alabama.

Handbook, 1910 (gift).

ALASKA AGRICULTURAL EXPERIMENT STATION, Washington, D. C.

Annual report, 1909.

Bulletin, current numbers.

ALEXANDRIE SOCIÉTÉ D'HISTOIRE NATURELLE, Alexandria, Egypt.

Mémoires et communications, ser. 1 no. 1-3.

ALTONAER MUSEUM, Altona, Germany.

Jahresbericht, 1909.

AMERICAN ACADEMY OF ARTS AND SCIENCES, Cambridge, Massachusetts.

Proceedings, current numbers.

AMERICAN ANTIQUARIAN SOCIETY, Boston, Massachusetts.

Proceedings, v. 20.

- AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE,
Washington, D. C.
Proceedings, v. 59-61.
- AMERICAN ASSOCIATION OF MUSEUMS.
Proceedings, v. 3.
- AMERICAN CHEMICAL JOURNAL PUBLISHING COMPANY, Baltimore,
Maryland.
Journal, current numbers.
- AMERICAN FOLK-LORE SOCIETY, Cambridge, Massachusetts.
Journal, current numbers.
- AMERICAN GEOGRAPHICAL SOCIETY, New York City.
Bulletin, current numbers.
- AMERICAN INSTITUTE OF MINING ENGINEERS, New York City.
Yearbook, 1910.
- AMERICAN MINING CONGRESS, Denver, Colorado.
Report, 1909.
- AMERICAN MUSEUM OF NATURAL HISTORY, New York City.
29 publications.
- AMERICAN ORIENTAL SOCIETY, New Haven, Connecticut.
Journal, v. 30.
- AMERICAN PHILOSOPHICAL SOCIETY, Philadelphia.
Proceedings, current numbers.
- AMSTERDAM. K. AKADEMIE VAN WETENSCHAPPEN, Amsterdam,
Netherlands.
8 publications.
- ANGERS. SOCIÉTÉ D'ÉTUDES SCIENTIFIQUES, Angers, France.
Bulletin, v. 38.
- ANNALES DES MINES, Paris, France.
Annales, current numbers.
- ANTHROPOLOGICAL INSTITUTE OF GREAT BRITAIN AND
IRELAND, London, England.
Journal, current numbers.
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25 publications.
- INDIA. ARCHAEOLOGICAL SURVEY, Calcutta, India.
10 publications.

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- INDIA. GEOLOGICAL SURVEY, Calcutta, India.
5 publications.
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D. C.
Bulletin, current numbers.
- IOWA ACADEMY OF SCIENCE, Des Moines, Iowa.
Proceedings, v. 16.
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Transactions, v. 44.
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- JOHNS HOPKINS UNIVERSITY, Baltimore, Maryland.
12 publications.
- JONES, ARTHUR B., Chicago.
1 publication (gift).
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Journal, current numbers (gift).
- KANSAS AGRICULTURAL EXPERIMENT STATION, Manhattan, Kansas.
Bulletin and circulars, current numbers.

- KANSAS STATE BOARD OF AGRICULTURE, Topeka, Kansas.
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- KARLSRUHE. NATURWISSENSCHAFTLICHER VEREIN, Karlsruhe,
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- KENTUCKY AGRICULTURAL EXPERIMENT STATION, Lexington,
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Annual report, no. 21
Bulletin, current numbers (gift).
- KEW. ROYAL BOTANIC GARDENS, Kew, England.
14 publications.
- KIEL. NATURWISSENSCHAFTLICHER VEREIN FÜR SCHLESWIG-
HOLSTEIN, Kiel, Germany.
17 publications.
- KISSEL, MARY LOIS, New York City.
1 pamphlet (gift).
- KOCH-GRÜNBERG, THEODOR, Berlin, Germany.
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- LEIPZIG. K. SÄCHS. GESELLSCHAFT DER WISSENSCHAFTEN,
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Bericht, current numbers.
- LEIPZIG. MUSEUM FÜR VÖLKERKUNDE, Leipzig, Germany.
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2 publications.
- LIVERPOOL MARINE BIOLOGICAL STATION, Liverpool, England.
Annual report, 1909.
- LLOYD LIBRARY, Cincinnati, Ohio.
28 publications.
- LOCY, WILLIAM A., Evanston, Illinois.
2 pamphlets.
- LONDON FOLK-LORE SOCIETY, London, England.
Publications, v. 65.
- LONDON LINNEAN SOCIETY, London, England.
9 publications.
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Proceedings, current numbers.
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Journal, current numbers.
- LONDON. ROYAL SOCIETY, London, England.
11 publications.
- LONDON. ROYAL SOCIETY OF ARTS, London, England.
Journal, current numbers.
- LONDON ZOOLOGICAL SOCIETY, London, England.
9 publications.
- LOUBAT, DUC DE, Paris, France.
3 publications.
- LOUISIANA AGRICULTURAL EXPERIMENT STATION, Baton Rouge,
Louisiana.
7 publications.



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Acta, current numbers.
- LYON. MUSÉUM D'HISTOIRE NATURELLE, Lyon, France.
Archives, v. 10.
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Publications, current numbers.
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2 reprints.
- MADRAS. DEPARTMENT OF AGRICULTURE, Madras, India.
Bulletin, no. 61.
- MADRAS. GOVERNMENT MUSEUM, Madras, India.
1 publication.
- MADRAS. HORTICULTURAL SOCIETY, Madras, India.
Proceedings, current numbers.
- MADRID. R. ACADEMIA DE CIENCIAS, Madrid, Spain.
7 publications.
- MADRID. SOCIEDAD ESPAÑOLA DE HISTORIA NATURAL, Madrid, Spain.
14 publications.
- MAGYAR NEMZETI MUSEUM, Budapest, Hungary.
Annales, current numbers.
- MAIDEN, J. H., Sydney, New South Wales.
8 publications.
- MAINE AGRICULTURAL EXPERIMENT STATION, Orono, Maine.
22 publications.
- MAINE STATE LIBRARY, Augusta, Maine.
15 state reports.
- MAINE UNIVERSITY, Orono, Maine.
Catalogue, 1909-10.
- MANCHESTER LITERARY AND PHILOSOPHICAL SOCIETY, Manchester, England.
3 publications.
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2 publications.
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28 publications.
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Catalogue, 1909-1910.
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Journal, current numbers.

MARKS, E. L., Cambridge, Massachusetts.

15 publications.

MARSEILLE. MUSÉE COLONIAL, Marseille, France.

Annales, 2nd ser. v. 7.

MARYLAND AGRICULTURAL EXPERIMENT STATION, College Park, Maryland.

9 publication.

MARYLAND GEOLOGICAL SURVEY, Baltimore, Maryland.

3 publications.

MARYLAND WEATHER SERVICE, Baltimore, Maryland.

2 publications (gift).

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Report, no. 22.

MASSACHUSETTS HORTICULTURAL SOCIETY, Boston, Massachusetts.

Transactions, 1909, pt. 2.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY, Boston, Massachusetts.

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Annual report state ornithologist, 1910.

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METALLURGICAL AND CHEMICAL ENGINEERING SOCIETY, New York City.

Dictionary, 1910.

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11 publications.

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4 publications.

MEXICO. MUSEO NACIONAL, Mexico, Mexico.

Anales, current numbers.

MEXICO. SOCIEDAD GEOLOGICA, Mexico, Mexico.

Boletin, v. 5, 6.

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7 publications.

MICHIGAN ACADEMY OF SCIENCE, Ann Arbor, Michigan.

Report, 1909, 1910.

MICHIGAN AGRICULTURAL EXPERIMENT STATION, Agricultural College, Michigan.

6 publications.

MICHIGAN COLLEGE OF MINES, Houghton, Michigan.

3 publications.

MICHIGAN GEOLOGICAL AND BIOLOGICAL SURVEY, Lansing, Michigan.

Publication I. (Biological ser. I.)

MICHIGAN STATE BOARD OF AGRICULTURE, Lansing, Michigan

Annual report, no. 22, 1908-9.

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Report, University Museum, 1909-10.

MILLSPAUGH, CHARLES FREDERICK. Chicago.

33 botanical publications.

MILWAUKEE PUBLIC MUSEUM, Milwaukee, Wisconsin.

3 publications.

MINING WORLD PUBLISHING COMPANY, Chicago.

Journal, current numbers (gift).

MINNEAPOLIS PUBLIC LIBRARY, Minneapolis, Minnesota.

Annual report, 1909.

MINNESOTA AGRICULTURAL EXPERIMENT STATION, St. Anthony Park, Minnesota.

Annual report, 1909

Bulletin, current number.

MINNESOTA GEOLOGICAL AND NATURAL HISTORY SURVEY, Minneapolis, Minnesota.

Report, Botanical series. v. 8.

MISSISSIPPI AGRICULTURAL EXPERIMENT STATION, Agricultural College, Mississippi.

19 publications.

MISSISSIPPI STATE GEOLOGICAL SURVEY, Jackson, Mississippi.

Bulletin, no. 5-6.

MISSOURI AGRICULTURAL EXPERIMENT STATION, Columbia, Missouri.

5 publications.

MISSOURI BOTANICAL GARDEN, St. Louis, Missouri

Annual report, 1909.

MISSOURI HISTORICAL SOCIETY, St. Louis, Missouri.

6 publications.

MONTEVIDEO MUSEO NACIONAL, Montevideo, Uruguay.

Anales, current numbers.

MOORE, CLARENCE B., Philadelphia, Pennsylvania.

Antiquities of the St. Francis, White, and Black rivers.

MORLEY, SYLVANUS G., Santa Fe, New Mexico.

2 reprints (gift).

MOSCOW. SOCIÉTÉ IMPÉRIALE DES NATURALISTES, Moscow, Russia.

4 publications.

MÜNCHEN. K. BAYER. AKADEMIE DER WISSENSCHAFTEN, München, Germany.

Bericht, current numbers.

MUNN AND COMPANY, New York City.

Scientific American, current numbers.

MUSÉE DU CONGO, Brussels, Belgium.

4 publications.

MUSEO DE LA PLATA, La Plata, Argentina.

5 publications, 6 maps.

MUSEU GOELDI, Para, Brazil.

Boletim, v. 5, 6.

NAPOLI INSTITUTO ZOOLOGICO, Naples, Italy.

Museo zoologico:

Anales, v. 3, no. 1-12.

NAPOLI. R. ACCADEMIA DELLE SCIENZE, Naples, Italy.

Atti and rendiconti, current numbers.

NAPOLI. SOCIETÀ DI NATURALISTI, Naples, Italy.

Bollettino, ser. 2, v. 2.

NAPOLI. UNIVERSITÀ. R. ORTO BOTANICO, Naples, Italy.

Bulletin, v. 1-2.

NATAL BOTANIC GARDENS, Durban, Natal.

Report, 1908, 1909-10.

NATAL MUSEUM, Pietermaritzburg, Natal.

Catalogue, collection of rocks and minerals.

NATIONAL ACADEMY OF SCIENCES, Washington, D. C.

Biographical memoirs, v. 6.

NATIONAL EDUCATIONAL ASSOCIATION, Winona, Minnesota.

Addresses and proceedings, 1909.

1 pamphlet.

NATIONAL GEOGRAPHIC SOCIETY, Washington, D. C.

Magazine, current numbers.

NATURALISTE CANADIEN, Chicoutimi, Canada.

Journal, current numbers.

NEBRASKA AGRICULTURAL EXPERIMENT STATION, Lincoln, Nebraska.

Annual report, no. 23.

Bulletin, current numbers.

NEBRASKA UNIVERSITY, Lincoln, Nebraska.

3 publications.

NEDERLANDSCH-INDIE. K. INSTITUT TAAL-LAND-EN VOLKEN-KUNDE, Batavia, Java.

Bijdragen, v. 9-10.

NEDERLANDSCHE DIERKUNDIGE VEREENIGING, Leiden, Netherlands.

Tidschrift, v. 11, no. 3-4.

NEVADA STATE UNIVERSITY, Reno, Nevada.

2 publications.

NEW BEDFORD FREE PUBLIC LIBRARY, New Bedford, Massachusetts.

3 publications.

NEW BRUNSWICK NATURAL HISTORY SOCIETY, St. Johns, New Brunswick.

Bulletin, v. 6, pt. I.

NEW-CASTLE-UPON-TYNE NATURAL HISTORY SOCIETY, New-Castle-upon-Tyne, England.

Transactions, v. 3, no. 3.

NEW HAMPSHIRE COLLEGE OF AGRICULTURE, Durham, New Hampshire.

Bulletin, current numbers.

Catalogue, 1909-10.

NEW JERSEY AGRICULTURAL EXPERIMENT STATION, Trenton, New Jersey.

11 publications.

NEW JERSEY GEOLOGICAL SURVEY, Trenton, New Jersey.

Report, 1909.

NEW JERSEY HORTICULTURAL SOCIETY, Trenton, New Jersey.

Proceedings, v. 35.

NEW JERSEY STATE MUSEUM, Trenton, New Jersey.

Annual report, 1909.

NEW MEXICO AGRICULTURAL EXPERIMENT STATION, Mesilla Park, New Mexico.

Bulletin, current numbers.

NEW SOUTH WALES. DEPARTMENT OF MINES AND AGRICULTURE
Sydney, New South Wales.

12 publications.

NEW SOUTH WALES LINNEAN SOCIETY, Sydney, New South Wales.

3 publications.

NEW YORK ACADEMY OF SCIENCES, New York City.

Annals, v. 19, no. 1-3.

NEW YORK AGRICULTURAL EXPERIMENT STATION, Geneva, New York.

11 publications.

NEW YORK BOTANICAL GARDEN, New York City.

3 publications.

NEW YORK FOREST, FISH AND GAME COMMISSION. Albany, New York.

Annual report, no. 15, 1910.

NEW YORK. METROPOLITAN MUSEUM OF ART, New York City.

10 publications.

NEW YORK PUBLIC LIBRARY, New York City.

12 publications.

NEW YORK SOCIETY OF MECHANICS AND TRADESMEN, New York City.

Annual report, no. 124, 1909.

NEW YORK STATE LIBRARY, Albany, New York.

State Education Department:

Report, 1909.

NEW YORK STATE MUSEUM, Albany, New York.

10 publications.

NEW YORK ZOOLOGICAL SOCIETY, New York City.

6 publications.

NEW ZEALAND. DEPARTMENT OF AGRICULTURE. Wellington, New Zealand.

12 publications.

NEW ZEALAND INSTITUTE, Wellington, New Zealand.

Proceedings, v. 3-4.

Transactions, v. 42.

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Report, 1909.

NORTH CAROLINA AGRICULTURAL EXPERIMENT STATION,
Raleigh, North Carolina.

8 publications (gift).

NORTH DAKOTA AGRICULTURAL EXPERIMENT STATION. Fargo,
North Dakota.

1 publication (gift).

NORTH DAKOTA UNIVERSITY. University, North Dakota.

Quarterly journal, v. 1, no. 1.

NOTRE DAME UNIVERSITY. Notre Dame, Indiana.

General catalogue, 1909-10.

Midland naturalist, current numbers.

NOVA SCOTIAN INSTITUTE OF SCIENCES. Halifax, Nova Scotia.

Proceedings and transactions, v. 12.

NUMISMATIC AND ANTIQUARIAN SOCIETY, Montreal, Canada.

Canadian antiquarian, current numbers.

NÜRNBERG. NATURHISTORISCHE GESELLSCHAFT, Nuremberg, Ger-
many.

Abhandlungen, v. 18, pt. 1.

OBERLIN COLLEGE LIBRARY, Oberlin, Ohio.

Report, 1909.

OHIO AGRICULTURAL EXPERIMENT STATION, Wooster, Ohio.

20 publications.

OHIO GEOLOGICAL SURVEY, Columbus, Ohio.

Bulletin, no. 10.

OHIO STATE ARCHAEOLOGICAL AND HISTORICAL SOCIETY, Colum-
bus, Ohio.

Journal, current numbers.

OHIO STATE COLLEGE OF AGRICULTURE, Columbus, Ohio.

5 publications.

OHIO STATE UNIVERSITY, Columbus, Ohio.

4 publications.

OHIO UNIVERSITY, Athens, Ohio.

1 publication.

OKLAHOMA ACADEMY OF SCIENCE, Oklahoma City, Oklahoma.

1 pamphlet.

OKLAHOMA AGRICULTURAL EXPERIMENT STATION, Stillwater,
Oklahoma.

2 publications.

OKLAHOMA UNIVERSITY, Norman, Oklahoma.

3 publications.

- OLIVIER, ERNEST, Paris, France.
1 reprint.
- OMAHA PUBLIC LIBRARY, Omaha, Nebraska.
Bulletin, current numbers.
- ONEIDA HISTORICAL SOCIETY, Utica, New York.
Yearbook, no. 11.
- ONTARIO BUREAU OF INDUSTRIES, Toronto, Canada.
Annual report, 1908, 1909.
- ONTARIO DEPARTMENT OF AGRICULTURE, Ontario, Canada.
30 publications.
- OPEN COURT PUBLISHING COMPANY, Chicago.
Monist, current numbers.
- OREGON AGRICULTURAL EXPERIMENT STATION, Corvallis, Oregon.
4 publications (gift).
- ORNITHOLOGISCHE GESELLSCHAFT IN BAYERN, München, Germany.
Verhandlungen, v. 6, 9.
- OTTAWA FIELD NATURALISTS' CLUB, Ottawa, Canada.
Ottawa naturalist, current numbers.
- OUT DOOR PUBLISHING COMPANY, Denver, Colorado.
Out door life, current numbers (gift).
- OUTES, FELIX F., La Plata, Argentina.
4 reprints.
- OUTING PUBLISHING COMPANY, New York City.
Outing magazine, current numbers.
- OXFORD DELEGATES OF UNIVERSITY MUSEUM, Oxford, England.
Annual report, no. 22, 1909.
- PALACHE, CHARLES, Cambridge, Massachusetts.
4 pamphlets.
- PALERMO. R. ORTO BOTANICO E GIARDINO COLONIALE, Palermo, Italy.
5 publications.
- PARIS. ACADEMIE DES SCIENCES, Paris, France.
Comptes rendus, current numbers.
- PARIS. ÉCOLE D'ANTHROPOLOGIE, Paris, France.
Revue, current numbers.
- PARIS. MUSÉE D'HISTOIRE NATURELLE, Paris, France.
Bulletin, current numbers
- PARIS. SOCIÉTÉ DES AMERICANISTES, Paris, France.
Journal, current numbers.
- PARIS. SOCIÉTÉ NATIONALE D'AGRICULTURE, Paris, France.
Bulletin, current numbers.
- PARKE, DAVIS & COMPANY, Detroit, Michigan.
Bulletin of pharmacy, current numbers (gift).
- PARKS, WILLIAM A., Toronto, Canada.
1 pamphlet.
- PAVIA. ISTITUTO BOTANICO DELLA R. UNIVERSITÀ, Pavia, Italy.
Archivos, v. 1-5, 1874-1888.
- PEABODY INSTITUTE, Peabody, Massachusetts.
Report, no. 58, 1910.

PEABODY MUSEUM OF AMERICAN ARCHAEOLOGY AND ETHNOLOGY, Cambridge, Massachusetts.

Papers, v. 1-4.

Report, no. 43, 1908-9.

PENNSYLVANIA MUSEUM AND SCHOOL OF INDUSTRIAL ART.
Philadelphia, Pennsylvania.

4 publications.

PENNSYLVANIA UNIVERSITY, Philadelphia, Pennsylvania.

5 publications.

PENROSE, R. A. F., JR., Philadelphia, Pennsylvania.

4 pamphlets.

PEORIA PUBLIC LIBRARY, Peoria, Illinois.

6 publications.

PERKINS INSTITUTE AND MASSACHUSETTS SCHOOL FOR THE
BLIND, Boston, Massachusetts.

Annual report, 1909.

PERU. CUERPO DE INGENIEROS DE MINAS, Lima, Peru.

Boletin, no. 75-76.

PERU INSTITUTO HISTORICO, Lima, Peru.

Revista, current numbers.

PHILADELPHIA ACADEMY OF NATURAL SCIENCES, Philadelphia,
Pennsylvania. Proceedings, current numbers.

PHILADELPHIA COLLEGE OF PHYSICIANS, Philadelphia, Pennsylvania.
Transactions, v. 31.

PHILADELPHIA COMMERCIAL MUSEUM, Philadelphia, Pennsylvania.

1 pamphlet

PHILADELPHIA GEOGRAPHICAL SOCIETY, Philadelphia, Pennsylvania.

Bulletin, current numbers.

PHILIPPINE ISLANDS. DEPARTMENT OF THE INTERIOR. BUREAU
OF SCIENCE, Manila, Philippine Islands.

27 publications.

PHILLIPS ACADEMY, Andover, Massachusetts.

Bulletin, current numbers.

PORTICI. R. SCUOLA SUPERIORE D'AGRICOLTURA, Portici, Italy.

3 publications.

PORTLAND PUBLIC LIBRARY, Portland, Maine.

Annual report, 1909.

PORTO RICO AGRICULTURAL EXPERIMENT STATION, Mayaguez,
Porto Rico.

2 publications.

POSEN. DEUTSCHE GESELLSCHAFT FÜR KUNST UND WISSEN-
SCHAFT, Posen, Germany.

Zeitschrift der Naturw. Abtheilung, current numbers.

PRATT INSTITUTE FREE LIBRARY, Brooklyn, New York.

6 publications.

PREUSS, K. TH., Berlin, Germany.

3 pamphlets.

PRINCETON UNIVERSITY, Princeton, New Jersey.

Catalogue, 1909-10.

- PROVIDENCE ATHENAEUM, Providence, Rhode Island.
Annual report, no. 74.
- PROVIDENCE PUBLIC LIBRARY, Providence, Rhode Island.
6 publications.
- PROVINCIAL MUSEUM, Victoria, British Columbia.
5 guides and map.
- PURDUE UNIVERSITY, Lafayette, Indiana.
Agricultural Experiment Station.
13 publications.
- PUTNAM, FREDERIC WARD, Cambridge, Massachusetts.
Putnam anniversary volume — Anthropological essays.
- QUEENSLAND DEPARTMENT OF MINES, Brisbane, Queensland.
Bulletin, current numbers.
- QUEENSLAND ROYAL GEOGRAPHICAL SOCIETY, Brisbane, Queensland.
Journal, v. 24.
- QUEENSLAND ROYAL SOCIETY, Brisbane, Queensland.
Proceedings, v. 22, pt. 1.
- RANDALL & COMPANY, Chicago.
Clayworker, current numbers (gift)
- RENNES UNIVERSITÉ, Rennes, France.
Travaux scientifiques, current numbers.
- REVUE BRETONNE DE BOTANIQUE, Rennes, France.
Current numbers.
- REVUE CRITIQUE DE PALÉOZOOLOGIE, Paris, France.
1910-11.
- REVUE SCIENTIFIQUE DU BOURBONNAIS ET DU CENTRE DE LA
FRANCE, Moulins, France.
Revue, v. 22-23.
- RHODE ISLAND AGRICULTURAL EXPERIMENT STATION, Kingston,
Rhode Island.
5 publications.
- RHODESIA MUSEUM, Bulawayo, Transvaal.
Annual report, no. 8, 1909.
- RHODESIA SCIENTIFIC ASSOCIATION, Bulawayo, Transvaal.
Proceedings, v. 1-8, 1900-1908.
- RIVET, P. Paris, France.
6 reprints.
- ROGER WILLIAMS PARK MUSEUM, Providence, Rhode Island.
2 publications.
- ROME. R. ACCADEMIA DEI LINCEI, Rome, Italy.
Atti, current numbers.
Rendiconto, current numbers.
- ROSE POLYTECHNIC INSTITUTE, Terre Haute, Indiana.
Catalogue, 1909-10.
- ROTTERDAM MUSEUM VOOR LAND-EN-VOLKENKUNDE, Rotterdam,
Holland.
6 publications
- ROYAL ARCHAEOLOGICAL INSTITUTE OF GREAT BRITAIN AND
IRELAND, London, England
Archaeological journal, current numbers.

- ROYAL ASIATIC SOCIETY, CEYLON BRANCH, Colombo, India.
Journal, no. 60-62.
- ROYAL CORNWALL POLYTECHNIC SOCIETY, Falmouth, England.
44 publications.
- ROYAL ZOOLOGICAL SOCIETY OF IRELAND, Dublin, Ireland.
Annual report, 1909.
- RUTOT, A., Paris, France.
3 reprints.
- RYERSON, MARTIN A., Chicago.
7 publications (gift).
- ST. GALL. OSTSCH. GEOGRAPH. COMMERC. GESELLSCHAFT, St. Gall,
Switzerland.
Mitteilungen, 1909-1910.
- ST. LOUIS ACADEMY OF SCIENCES, St. Louis, Missouri.
Transactions, current numbers.
- ST. LOUIS. CITY ART MUSEUM, St. Louis, Missouri.
10 catalogues.
- ST. LOUIS PUBLIC LIBRARY, St. Louis, Missouri.
10 publications.
- ST. LOUIS UNIVERSITY, St. Louis, Missouri.
4 publications.
- ST. PAUL PUBLIC LIBRARY, St. Paul, Minnesota.
Annual report, no. 26, 27, 28.
- ST. PETERSBURG. ACADEMIE IMPÉRIALE DES SCIENCES, St. Peters-
burg, Russia.
41 publications.
- ST. PETERSBURG. SOCIÉTÉ IMPÉRIALE DES NATURALISTES, St.
Petersburg, Russia.
10 publications.
- SALEM PUBLIC LIBRARY, Salem, Massachusetts.
10 publications.
- SAN SALVADOR MUSEO NACIONAL, San Salvador.
Anales, current numbers.
- SANTIAGO DE CHILE. BIBLIOTECA NACIONAL, Santiago, Chile.
134 publications.
- SÃO PAULO. INSTITUTO AGRONOMICO, São Paulo, Brazil.
Boletim, current numbers.
- SÃO PAULO. SOCIEDADE CIENTIFICA, São Paulo, Brazil.
Revista, current numbers.
- SAÔNE ET LOIRE. SOCIÉTÉ DES SCIENCES NATURELLES, Châlon-
sur-Saône, France.
Bulletin, current numbers.
- SAPIR, EDWARD, Philadelphia, Pennsylvania.
1 publication.
- SARASIN, PAUL, Basel, Switzerland.
1 pamphlet.
- SARAWAK MUSEUM, Borneo, India.
Report, 1909-9.
- SARGENT, C. S., Philadelphia.
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Luzon Island, P. I.

- SATURDAY REVIEW, London, England.
Current numbers.
- SAVILLE, MARSHALL H. AND HEYE, GEORGE G., New York City.
Contributions to South American archeology, v. 1-2 (gift).
- SCHLAGINHAUFEN, OTTO, Dresden, Germany.
3 pamphlets.
- SCHWARZ, ERNST, Berlin, Germany.
5 reprints.
- SCHWEIZERISCHE ENTOMOLOGISCHE GESELLSCHAFT, Bern, Switzerland.
Mitteilungen, v. 11.
- SCHWEIZERISCHE NATURFORSCHENDE GESELLSCHAFT, Lausanne, Switzerland.
Verhandlungen, 92nd jahr, v. 1-2.
- SCOTLAND FISHERIES BOARD, Glasgow, Scotland.
2 reports.
- SELER, EDUARD, Berlin, Germany.
7 pamphlets.
- SENCKENBERGISCHE NATURFORSCHENDE GESELLSCHAFT, Frankfurt-am-Main, Germany.
Bericht, 1910.
- SIMPSON, JAMES J., Aberdeen, Scotland.
1 publication.
- SKIFF, F. J. V., Chicago.
3 publications.
- SLOCOM, A. W., Chicago.
B. & C. mining exchange, current numbers.
- SLONAKER, JAMES ROLLIN, Palo Alto, California.
1 pamphlet.
- SMITH, JOHN B., New Brunswick. New Jersey.
3 publications.
- SMITH, J. D., Baltimore, Maryland.
1 pamphlet.
- SOCIEDAD CIENTIFICA "ANTONIO ALZATE," Mexico, Mexico.
Memorias, current numbers.
- SOCIEDAD RURAL ARGENTINA, Buenos Aires, Argentina.
1 pamphlet (gift).
- SOCIETÀ AFRICANA D'ITALIA, Naples, Italy.
Bollettino, v. 29.
- SOCIETÀ BOTANICA ITALIANA, Firenze, Italy.
Webbia, v. 1-2.
- SOCIETÀ GEOGRAFICA ITALIANA, Rome, Italy.
Bollettino, current numbers.
- SOCIETÀ GEOLOGICA ITALIANA, Rome, Italy.
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- SOCIETÀ ITALIANA DI ANTROPOLOGIA, Florence, Italy.
Archivio, current numbers.
- SOCIETÀ ROMANA DI ANTROPOLOGIA, Rome, Italy.
Atti, current numbers.

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Memorie, v. 25

SOCIÉTÉ BELGE DE GÉOLOGIE, DE PALÉONTOLOGIE ET D'HYDROLOGIE, Brussels, Belgium.

Bulletin, current numbers.

SOCIÉTÉ BOTANIQUE DE COPENHAGEN, Copenhagen, Denmark.

Botanisk tidsskrift, current numbers.

SOCIÉTÉ BOTANIQUE DE FRANCE, Paris, France.

Bulletin, current numbers.

SOCIÉTÉ D'ÉTUDE DES SCIENCES NATURELLES, Béziers, France.

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SOCIÉTÉ D'ÉTUDE DES SCIENCES NATURELLES, Rheims, France.

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SOCIÉTÉ D'HORTICULTURE ET DE BOTANIQUE, Marseille, France.

Revue horticole, current numbers.

SOCIÉTÉ DE GÉOGRAPHIE, Toulouse, France.

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SOCIÉTÉ DE PHYSIQUE ET D'HISTOIRE NATURELLE, Geneva, Switzerland.

Mémoires, current numbers.

SOCIÉTÉ DES AMIS DE L'UNIVERSITÉ, Clermont, France.

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SOCIÉTÉ IMPÉRIALE RUSSE DE GÉOGRAPHIE, St. Petersburg, Russia.

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SOCIÉTÉ NATIONALE D'HORTICULTURE DE FRANCE, Paris, France.

Journal, v. 11

SOCIÉTÉ NEUCHÂTELOISE DE GÉOGRAPHIE, Neuchâtel, Switzerland.

Bulletin, current numbers.

SOCIÉTÉ OURALIENNE D'AMATEURS DES SCIENCES NATURELLES,

Ekaterinburg, Russia.

Bulletin, v. 28-29.

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Bulletin v. 3-4.

SOCIÉTÉ ZOOLOGIQUE DE FRANCE, Paris, France.

Bulletin, v. 34.

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SOMMERFELD, ALFRED, Breslau, Germany.

1 separate

SOUTH AFRICA GEOLOGICAL SOCIETY, Johannesburg, South Africa

Transactions, current numbers.

SOUTH AFRICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, Cape Town, South Africa.

Journal of science, current number.

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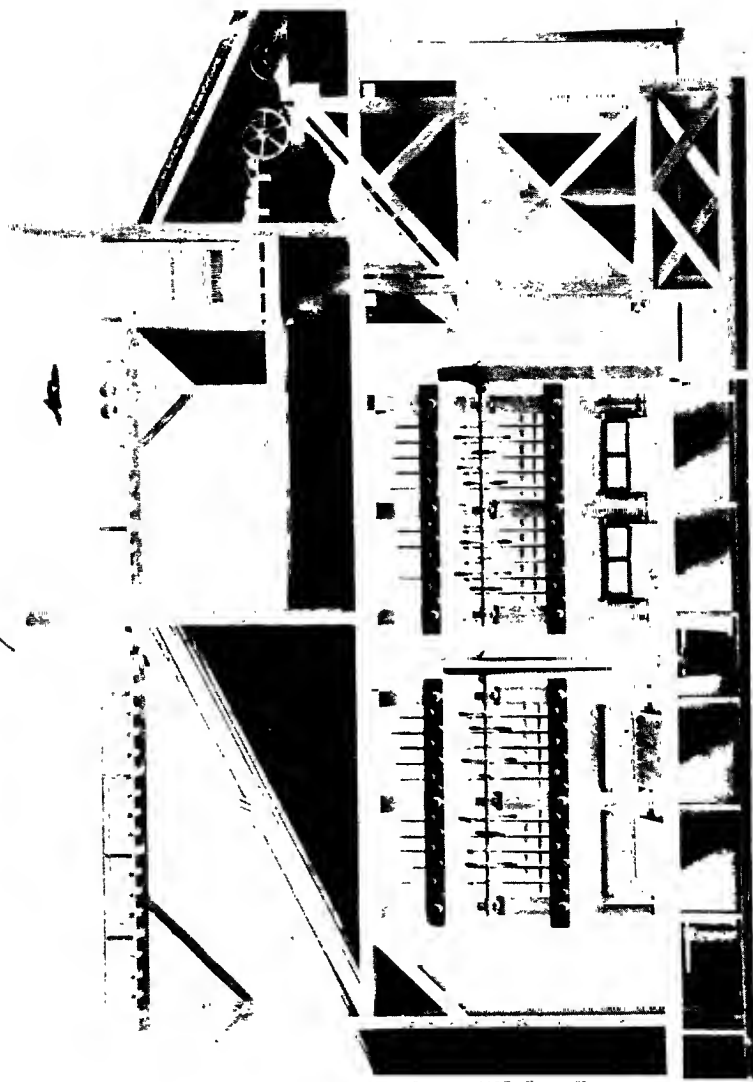
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- SOUTH AFRICAN MUSEUM, Cape Town, South Africa.
Report, 1909.
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Transactions, current numbers.
- SOUTH AUSTRALIA. DEPARTMENT OF AGRICULTURE, Adelaide, South Australia.
Journal, current numbers.
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Report, 1909.
- SOUTH AUSTRALIA PUBLIC LIBRARY, MUSEUM AND ART GALLERY, Adelaide, South Australia.
Report, 1908-9.
- SOUTH AUSTRALIA ROYAL SOCIETY, Adelaide, South Australia.
Memoirs, v. 2, pt. 2.
Transactions and proceedings, v. 33.
- SOUTH CAROLINA AGRICULTURAL EXPERIMENT STATION, Clemson, South Carolina.
7 publications.
- SOUTH DAKOTA SCHOOL OF MINES, Rapid City, South Dakota.
Bulletin, no. 9.
- SOUTH LONDON ENTOMOLOGICAL AND NATURAL HISTORY SOCIETY, London, England.
Proceedings, 1909-10.
- SOUTHERN CALIFORNIA ACADEMY OF SCIENCES, Los Angeles, California.
Bulletin, current numbers.
- SOUTHERN PACIFIC RAILROAD, San Francisco, California.
Sunset, current numbers (gift).
- SPENCER, L. J., London, England.
2 reprints (gift).
- SPEZIA, GIORGIO, Torino, Italy.
2 pamphlets (gift).
- SPRINGFIELD MUSEUM OF NATURAL HISTORY, Springfield, Massachusetts.
14 publications.
- STATEN ISLAND ASSOCIATION OF ARTS AND SCIENCES, New York City.
Bulletin, current numbers.
- STEVENS INSTITUTE OF TECHNOLOGY, Hoboken, New Jersey.
Catalogue, 1910-11.
- STOCKHOLM K. SVEN. VETENSKAPS AKADEMIEN, Stockholm, Sweden.
15 publications.
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Fornvannen, 1909.
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Ymer, current numbers.

- STRASSBURG KAISERLICHE UNIVERSITÄT, Strassburg, Germany.
12 publications.
- SWEDEN. FORSTLICHE-VERSUCHSANSTALT, Stockholm. Sweden.
Mitteilungen, v. 6, 1909.
- TASMANIA. DEPARTMENT OF AGRICULTURE, Hobart, Tasmania.
6 publications.
- TASMANIA. ROYAL SOCIETY, Hobart, Tasmania.
Papers and proceedings, 1909.
- TEXAS AGRICULTURAL EXPERIMENT STATION, College Station,
Texas.
8 publications.
- TEXAS UNIVERSITY, Austin, Texas.
Bulletin, science series, current numbers.
- THROOP INSTITUTE, Pasadena, California.
Catalogue, 1910.
- THURINGISCHER BOTANISCHE VEREIN, Weimar, Germany.
Mitteilungen, v. 26, 27.
- THURSTON, E., Madras, India.
Castes and tribes of southern India, 7 volumes (gift).
- TOKYO ANTHROPOLOGICAL SOCIETY, Tokyo, Japan.
Journal, v. 25, no. 289-291.
- TOKYO BOTANICAL SOCIETY, Tokyo, Japan.
Magazine, current numbers.
- TOKYO GEOLOGICAL SURVEY, Tokyo, Japan.
Bulletin, current numbers.
- TOKYO IMPERIAL UNIVERSITY, Tokyo, Japan.
11 publications.
- TOLEDO PUBLIC LIBRARY, Toledo, Ohio.
Report, no. 35, 1909.
- TORINO. MUSEO DI ZOOLOGIA ED ANATOMIA COMPARATA, Turin,
Italy.
Bollettino, v. 24.
- TORINO. R. ACCAD. DELLE SCIENZE, Turin, Italy.
Atti, current numbers.
Memorie, current numbers.
- TORONTO UNIVERSITY, Toronto, Canada.
Studies, current numbers.
- TOWNSEND, CHARLES HASKINS.
1 pamphlet.
- TRANSVAAL. DEPARTMENT OF AGRICULTURE, Pretoria, Transvaal.
Journal, current numbers.
- TRANSVAAL MUSEUM, Pretoria, Transvaal.
Annals, v. 2, no. 1.
- TRELEASE, WILLIAM, St. Louis, Missouri
1 reprint.
- TRING ZOOLOGICAL MUSEUM, Tring, England.
Novitates zoologicae, current numbers.
- TRINITY COLLEGE, Dublin, Ireland.
Hermathena, no. 36.

- TROMSO MUSEUM, Tromso, Norway.
Aarsberetning, 1908.
Aarshefter, 1907.
- TROPICAL AGRICULTURAL PUBLISHING COMPANY, Mexico City, Mexico.
American review of tropical agriculture, v. 1.
- TÜBINGEN KÖNIG. UNIVERSITÄTS BIBLIOTHEK, Tübingen, Germany.
7 dissertations.
- TUFTS COLLEGE, Tufts, Massachusetts.
Studies, v. 3, no. 1.
- UNION COLLEGE, Schenectady, New York.
Catalogue, 1910-11.
- U. S. GOVERNMENT, Washington, D. C.
618 publications.
- U. S. INDIAN SCHOOL, Carlisle, Pennsylvania.
Red man, the, current numbers.
- UPSALA SOCIETAS SCIENTIARUM, Upsala, Sweden.
Nova Acta, ser. 3, v. 1-20; ser. 4, v. 2, no. 7-9.
- UPSALA UNIVERSITY, Upsala, Sweden.
5 publications.
- UTAH AGRICULTURAL EXPERIMENT STATION, Logan, Utah.
3 publications.
- UTAH STATE HORTICULTURAL COMMISSION, Salt Lake City, Utah.
Bulletin, no. 1.
- VENEZUELA ESTADISTICA DE LOS ESTADOS UNIDOS, Caracas, Venezuela.
2 publications.
- VERMONT UNIVERSITY, Burlington, Vermont.
Bulletin, current numbers.
Catalogue, 1909-1910.
- VICTORIA DEPARTMENT OF AGRICULTURE, Melbourne, Australia.
Journal, current numbers.
- VICTORIA FIELD NATURALISTS' CLUB, Melbourne, Australia.
Victorian naturalist, current numbers.
- VICTORIA MUSEUM, Launceston, Tasmania.
Memoirs, no. 1.
- VICTORIA PUBLIC LIBRARY, MUSEUMS AND NATIONAL GALLERY, Victoria, Australia.
Report, 1909.
- VICTORIA. ROYAL SOCIETY, Melbourne, Australia.
Proceedings, v. 22.
- VIRCHOW, H., Berlin, Germany.
14 pamphlets.
- VIRGINIA AGRICULTURAL EXPERIMENT STATION, Blacksburg, Virginia.
Bulletin, current numbers.
- VIRGINIA STATE LIBRARY, Richmond, Virginia.
Bulletin, v. 3.
- VIRGINIA UNIVERSITY, Charlottesville, Virginia.
Catalogue, 1909-10.

- WASHINGTON ACADEMY OF SCIENCES, Washington, D. C.
 Proceedings, current numbers.
- WASHINGTON BIOLOGICAL SOCIETY, Washington, D. C.
 Proceedings, current numbers.
- WASHINGTON PHILOSOPHICAL SOCIETY, Washington, D. C.
 Proceedings, current numbers.
- WASHINGTON STATE LIBRARY, Olympia, Washington.
 1 publication.
- WASHINGTON UNIVERSITY, Seattle, Washington.
 State Museum series, Bulletin, no. 1.
- WAUGAUNI PUBLIC MUSEUM, Wangauni, New Zealand.
 Annual report, no. 15.
- WELLCOME CHEMICAL RESEARCH LABORATORIES, London, England.
 19 publications.
- WELLINGTON ACCLIMATISATION SOCIETY, Wellington, New Zealand.
 Annual report, no. 25.
- WELLINGTON FIELD NATURALISTS' CLUB, Guelph, Canada.
 Bulletin, no. 6.
- WESLEYAN UNIVERSITY, Middletown, Connecticut.
 2 publications.
- WEST INDIES. IMPERIAL DEPARTMENT OF AGRICULTURE, Barbadoes, West Indies.
 18 publications.
- WEST VIRGINIA AGRICULTURAL EXPERIMENT STATION, Morgantown, West Virginia.
 4 publications.
- WEST VIRGINIA STATE BOARD OF AGRICULTURE, Charleston, West Virginia.
 3 publications.
- WESTERN AUSTRALIA DEPARTMENT OF AGRICULTURE, Perth, West Australia.
 Journal, current numbers.
- WESTERN AUSTRALIA GEOLOGICAL SURVEY, Perth, West Australia.
 4 publications.
- WESTERN AUSTRALIAN MUSEUM AND ART GALLERY, Perth, West Australia.
 Records, v. 1, no. 1.
- WESTERN PENNSYLVANIA ENGINEERS SOCIETY, Pittsburgh, Pa.
 Magazine, current numbers.
- WHITE, I. C., Morgantown, West Virginia.
 2 publications.
- WIDENER, P. A. B., Philadelphia, Pennsylvania.
 1 publication (gift).
- WIEN. K. K. NATURHISTORISCHES HOFMUSEUM, Vienna, Austria.
 Annalen, current numbers.
- WIEN. K. K. UNIVERSITÄT, Vienna, Austria.
 7 publications.
- WIEN. K. K. ZOOLOGISCH-BOTANISCHE GESELLSCHAFT, Vienna, Austria.
 Verhandlungen, v. 59.



MODEL OF TWENTY STAMP GOLD MILL.



- WIEN. NATURWISSENSCHAFTLICHER VEREIN, Vienna, Austria.
Mitteilungen, v. 7.
- WIESBADEN. NASSAUISCHER VEREIN FÜR NATURKUNDE, Wies-
baden, Germany.
Jahrbuch, v. 62.
- WILLE, N., Christiania, Norway.
Naturvidenskaberne magazine, current numbers.
- WILLIAMS COLLEGE, Williamstown, Massachusetts.
Catalogue, 1909-11.
- WILLISTON, S. W., Chicago.
1 reprint.
- WILSON ORNITHOLOGICAL CLUB, Oberlin, Ohio.
Bulletin, current numbers.
- WINDSOR KENFIELD PUBLISHING COMPANY, Chicago.
Brick, current numbers.
- WISCONSIN ARCHAEOLOGICAL SOCIETY, Madison, Wisconsin.
Bulletin, current numbers.
- WISCONSIN STATE HISTORICAL SOCIETY, Madison, Wisconsin.
3 publications.
- WISCONSIN STATE HORTICULTURAL SOCIETY, Madison, Wisconsin.
7 publications.
- WISCONSIN UNIVERSITY, Madison, Wisconsin.
38 publications.
- WISTAR INSTITUTE OF ANATOMY AND BIOLOGY, Philadelphia, Penn-
sylvania.
18 publications.
- WOOD, J. MEDLEY, Natal, Africa.
1 pamphlet.
- WOOD, NORMAN A., London, England.
1 pamphlet.
- WOODWARD, ARTHUR SMITH, London, England.
29 pamphlets.
- WOOTON, ELMER OTTIS, Mesilla Park, New Mexico.
4 pamphlets.
- WORCESTER FREE PUBLIC LIBRARY, Worcester, Massachusetts.
9 publications.
- WÜRTEMBERG VEREIN FÜR VATERLÄNDISCHE NATURKUNDE,
Württemberg, Germany.
Jahreshefte, v. 66.
- WYOMING AGRICULTURAL EXPERIMENT STATION, Laramie,
Wyoming.
3 publications.
- YALE UNIVERSITY, New Haven, Connecticut.
21 publications.
- ZÜRICH. BOTANISCHES MUSEUM DER UNIVERSITÄT, Zurich, Switzer-
land.
Mitteilungen, no. 47-51.
- ZÜRICH. NATURFORSCHENDE GESELLSCHAFT, Zürich, Switzerland.
Vierteljahrsschrift, current numbers.

ARTICLES OF INCORPORATION.

STATE OF ILLINOIS.

DEPARTMENT OF STATE.

WILLIAM H. HINRICHSEN, *Secretary of State.*

TO ALL TO WHOM THESE PRESENTS SHALL COME, GREETING:

Whereas, a Certificate duly signed and acknowledged having been filed in the office of the Secretary of State, on the 16th day of September, A. D. 1893, for the organization of the COLUMBIAN MUSEUM OF CHICAGO, under and in accordance with the provisions of "An Act Concerning Corporations," approved April 18, 1872, and in force July 1, 1872, and all acts amendatory thereof, a copy of which certificate is hereto attached.

Now, therefore, I, William H. Hinrichsen, Secretary of State of the State of Illinois, by virtue of the powers and duties vested in me by law, do hereby certify that the said COLUMBIAN MUSEUM OF CHICAGO is a legally organized Corporation under the laws of this State.

In Testimony Whereof, I hereto set my hand and cause to be affixed the Great Seal of the State. Done at the City of Springfield, this 16th day of September, in the year of our Lord one thousand eight hundred and ninety-three, and of the Independence of the United States the one hundred and eighteenth.

W. H. HINRICHSEN,

Secretary of State.

[SEAL.]

TO HON. WILLIAM H. HINRICHSEN,

SECRETARY OF STATE:

SIR:

We, the undersigned, citizens of the United States, propose to form a corporation under an act of the General Assembly of the State of Illinois, entitled "An Act Concerning Corporations," approved April 18, 1872, and all acts amendatory thereof; and that for the purposes of such organization we hereby state as follows, to wit:

1. The name of such corporation is the "COLUMBIAN MUSEUM OF CHICAGO."

2. The object for which it is formed is for the accumulation and dissemination of knowledge, and the preservation and exhibition of objects illustrating Art, Archaeology, Science, and History.

3. The management of the aforesaid Museum shall be vested in a Board of FIFTEEN (15) TRUSTEES, five of whom are to be elected every year.

4. The following named persons are hereby selected as the Trustees for the first year of its corporate existence:

Ed. E. Ayer, Charles B. Farwell, George E. Adams, George R. Davis, Charles L. Hutchinson, Daniel H. Burnham, John A. Roche, M. C. Bullock, Emil G. Hirsch, James W. Ellsworth, Allison V. Armour, O. F. Aldis, Edwin Walker, John C. Black, and Frank W. Gunsaulus.

5. The location of the Museum is in the City of Chicago, County of Cook, and State of Illinois.

(Signed),

George E. Adams, C. B. Farwell, Sidney C. Eastman, F. W. Putnam, Robert McMurdy, Andrew Peterson, L. J. Gage, Charles L. Hutchinson, Ebenezer Buckingham, Andrew McNally, Edward E. Ayer, John M. Clark, Herman H. Kohlstaat, George Schneider, Henry H. Getty, William R. Harper, Franklin H. Head, E. G. Keith, J. Irving Pearce, Azel F. Hatch, Henry Wade Rogers, Thomas B. Bryan, L. Z. Leiter, A. C. Bartlett, A. A. Sprague, A. C. McClurg, James W. Scott, George F. Bissell, John R. Walsh, Chas. Fitzsimons, John A. Roche, E. B. McCagg, Owen F. Aldis, Ferdinand W. Peck, James H. Dole, Joseph Stockton, Edward B. Butler, John McConnell, R. A. Waller, H. C. Chatfield-Taylor, A. Crawford, Wm. Sooy Smith, P. S. Peterson, John C. Black, Jno. J. Mitchell, C. F. Gunther, George R. Davis, Stephen A. Forbes, Robert W. Patterson, Jr., M. C. Bullock, Edwin Walker, George M. Pullman, William E. Curtis, James W. Ellsworth, William E. Hale, Wm. T. Baker, Martin A. Ryerson, Huntington W. Jackson, N. B. Ream, Norman Williams, Melville E. Stone, Bryan Lathrop, Eliphalet W. Blatchford, Philip D. Armour,

STATE OF ILLINOIS / ss.
COOK COUNTY }

I, G. R. MITCHELL, a NOTARY PUBLIC in and for said County, do hereby certify that the foregoing petitioners personally appeared before me and acknowledged severally that they signed the foregoing petition as their free and voluntary act for the uses and purposes therein set forth.

Given under my hand and notarial seal this 14th day of September, 1893.

G. R. MITCHELL,

[SEAL]

NOTARY PUBLIC, COOK COUNTY, ILL.

CHANGE OF NAME.

Pursuant to a resolution passed at a meeting of the Corporate members held the 25th day of June, 1894, the name of the COLUMBIAN MUSEUM was changed to FIELD COLUMBIAN MUSEUM. A certificate to this effect was filed June 26 1894, in the office of the Secretary of State for Illinois.

CHANGE OF NAME.

Pursuant to a resolution passed at a meeting of the Corporate members held the 8th day of November, 1905, the name of the FIELD COLUMBIAN MUSEUM was changed to FIELD MUSEUM OF NATURAL HISTORY. A certificate to this effect was filed November 10, 1905, in the office of the Secretary of State for Illinois.

AMENDED BY-LAWS.

(JULY 11, 1910.)

ARTICLE I.

MEMBERS.

SECTION 1. Members shall be of five classes, Annual Members, Corporate Members, Life Members, Patrons and Honorary Members.

Sec. 2. Annual Members shall consist of such persons as are selected from time to time by the Board of Trustees at any of its meetings, and who shall pay an annual fee of ten dollars (\$10.00), payable within thirty days after notice of election, and within thirty days after each recurring annual date. The failure of any person to make such initiatory payment and such annual payments within said time shall, at the option of the Board of Trustees, be sufficient grounds for the forfeiture of an annual membership.

Thus said annual membership shall entitle the member to:

First. — Free admittance for the member and family, to the Museum on any day.

Second. — Ten tickets every year, admitting the bearer to the Museum on pay days.

Third. — A copy of all publications of the Museum when requested.

Fourth. — Invitations to all special exhibits, receptions, lectures, or other functions which may be given at the Museum.

SEC. 3. The Corporate Members shall consist of the persons named in the articles of incorporation, and of such other persons as shall be chosen from time to time by the Board of Trustees at any of its meetings, upon the recommendation of the Executive Committee; provided, that such persons named in the articles of incorporation shall, within ninety days from the adoption of these By-Laws, and persons hereafter chosen as Corporate Members shall, within ninety days of their election, pay into the treasury the sum of twenty dollars (\$20.00) or more. The failure of any person to make such payment within said time, shall, at the option of the Board of Trustees, be ground for forfeiture of his corporate membership. Corporate Members becoming Life Members, Patrons or Honorary Members shall be exempt from dues. Annual meetings of said Corporate Members shall be held at the same place and on the same day that the annual meeting of the Board of Trustees is held.

SEC. 4. Any person paying into the treasury the sum of five hundred dollars (\$500.00), at any one time, shall, upon the unanimous vote of the Board, become a Life Member. Life Members shall be exempt from all dues.

SEC. 5. Patrons shall be chosen by the Board upon recommendation of the Executive Committee from among persons who have rendered eminent service to the Museum. They shall be exempt from all dues, and, by virtue of their election as Patrons, shall also be Corporate Members.

SEC. 6. Honorary Members shall be chosen by the Board from among persons who have rendered eminent service to science, and only upon unanimous nomination of the Executive Committee. They shall be exempt from all dues.

ARTICLE II.

BOARD OF TRUSTEES.

SECTION 1. The Board of Trustees shall consist of fifteen members. The respective members of the Board now in office, and those who shall hereafter be elected, shall hold office during life. Vacancies occurring in the Board shall be filled at a regular meeting of the Board, upon the nomination of the Executive Committee made at a preceding regular meeting, by a majority vote of the members of the Board present.

SEC. 2. Regular meetings of the Board shall be held on the second Monday of each month. Special meetings may be called at any time by the President, and shall be called by the Secretary upon the written request of three Trustees. Five Trustees shall constitute a quorum, except for the election of officers or the adoption of the Annual Budget, when seven Trustees shall be required, but meetings may be adjourned by any less number from day to day, or to a day fixed, previous to the next regular meeting.

SEC. 3. Reasonable written notice, designating the time and place of holding meetings, shall be given by the Secretary.

ARTICLES III.

HONORARY TRUSTEES.

SECTION 1. As a mark of respect, and in appreciation of services performed for the Institution, those Trustees who by reason of inability, on account of change of residence, or for other cause, or from indisposition to serve longer in such capacity, shall resign their place upon the Board, may be elected, by a majority of those present at any regular meeting of the Board, an Honorary Trustee for life. Such Honorary Trustee will receive notice of all meetings of the Board of Trustees, whether regular or special, and will be expected to be present at all such meetings, and participate in the deliberations thereof, but an Honorary Trustee shall not have the right to vote.

ARTICLE IV.

OFFICERS.

SECTION 1. The officers shall be a President, a First Vice-President, a Second Vice-President, a Secretary, an Assistant Secretary and a Treasurer. They shall be chosen by ballot by the Board of Trustees, a majority of those present and voting being necessary to elect. The President, the First Vice-President, and the Second Vice-President shall be chosen from among the members of the Board of Trustees. The meeting for the election of officers shall be held on the second Monday of January of each year, and shall be called the Annual Meeting.

SEC. 2. The officers shall hold office for one year, or until their successors are elected and qualified, but any officer may be removed at any regular meeting of

the Board of Trustees by a vote of two-thirds of all the members of the Board. Vacancies in any office may be filled by the Board at any meeting.

SEC. 3. The officers shall perform such duties as ordinarily appertain to their respective offices, and such as shall be prescribed by the By-Laws, or designated from time to time by the Board of Trustees.

ARTICLE V.

THE TREASURER.

SECTION 1. The Treasurer shall be custodian of the funds of the Corporation. He shall make disbursements only upon warrants drawn by the Director and countersigned by the President. In the absence or inability of the Director, warrants may be signed by the Chairman of the Finance Committee, and in the absence or inability of the President, may be countersigned by one of the Vice-Presidents. But no warrants shall be issued, except in conformity with a regularly prepared voucher, giving the name of the payee and stating the occasion for the expenditure and verified and approved as hereinafter prescribed. It shall be no part of the duties of the Treasurer to see that the warrants have been issued in conformity with such vouchers.

SEC. 2. The securities and muniments of title belonging to the Corporation shall be placed in the custody of some Trust Company of Chicago to be designated by the Board of Trustees, which Trust Company shall collect the income and principal of said securities as the same become due, and pay same to the Treasurer. Said Trust Company shall allow access to and deliver any or all securities or muniments of title to the joint order of the following officers, namely: The President or one of the Vice-Presidents, jointly with the Chairman, or one of the Vice-Chairmen, of the Finance Committee of the Museum.

SEC. 3. The Treasurer shall give bond in such amount, and with such sureties, as shall be approved by the Board of Trustees.

SEC. 4. All vouchers executed for the payment of liabilities incurred in the administration of the Museum, shall be verified by the Auditor, and approved for payment by the Director, and the Chairman of the Administration Committee. All vouchers executed for expenditures for the construction or reconstruction of the Museum building, or buildings, shall be verified by the Auditor and approved for payment by the Chairman of the Building Committee. All vouchers executed in connection with the investments of the Corporation, or, in any way having to do with the endowment funds of the Corporation, shall be verified by the Auditor and approved for payment by the Chairman of the Finance Committee.

ARTICLE VI.

THE DIRECTOR.

SECTION 1. The Board of Trustees shall elect a Director of the Museum, who shall remain in office until his successor shall be elected. He shall have immediate charge and supervision of the Museum, and shall control the operations of the institution, subject to the authority of the Board of Trustees and its Committees. The Director shall be the official medium of communication between the Board, or its Committees, and the scientific staff and maintenance force.

SEC. 2. There shall be four scientific departments of the Museum—Anthropology, Botany, Geology and Zoology, each under the charge of a Curator, subject to the

authority of the Director. The Curators shall be appointed by the Board upon the recommendation of the Director, and shall serve during the pleasure of the Board. Subordinate staff officers in the scientific departments shall be appointed and removed by the Director upon the recommendation of the Curators of the respective Departments. The Director shall have authority to employ and remove all other employees of the Museum.

SEC. 3. The Director shall make report to the Board at each regular meeting, recounting the operations of the Museum for the previous month. At the Annual Meeting, the Director shall make an Annual Report, reviewing the work of the Museum for the previous year, which Annual Report shall be published in pamphlet form for the information of the Trustees and Members, and for free distribution in such number as the board may direct.

ARTICLE VII.

AUDITOR.

SECTION 1. The Board shall appoint an Auditor, who shall hold his office during the pleasure of the Board. He shall keep proper books of account, setting forth the financial condition and transactions of the Corporation, and of the Museum, and report thereon at each regular meeting, and at such other times as may be required by the Board. He shall certify to the correctness of all vouchers for the expenditure of the money of the Corporation.

ARTICLE VIII.

COMMITTEES.

SECTION 1. There shall be five Committees as follows: Finance, Building, Auditing, Administration and Executive.

SEC. 2. The Finance, Building and Auditing Committees shall each consist of three members, and the Administration Committee shall consist of five members. All members of these four Committees shall be elected by ballot by the Board at the Annual Meeting, and shall hold office for one year, and until their successors are elected and qualified. In electing the members of these Committees, the Board shall designate the Chairman and Vice-Chairman by the order in which the members are named in the respective Committees; the first member named shall be Chairman, the second named the Vice-Chairman, and the third named, Second Vice-Chairman, succession to the Chairmanship being in this order in the event of the absence or disability of the Chairman.

SEC. 3. The Executive Committee shall consist of the President of the Board, the Chairman of the Finance Committee, the Chairman of the Building Committee, the Chairman of the Administration Committee, the Chairman of the Auditing Committee, and two other members of the Board to be elected by ballot at the Annual Meeting.

SEC. 4. Four members shall constitute a quorum of the Executive Committee; three members shall constitute a quorum of the Administration Committee, and in all other standing Committees, two members shall constitute a quorum. In the event that, owing to the absence or inability of members, a quorum of the regularly elected members cannot be present at any meeting of any Committee, then the Chairman thereof, or his successor, as herein provided, may summon any member of the Board of Trustees to act in place of the absentee.

SEC. 5. The Finance Committee shall have supervision of investing the endowment and other permanent funds of the Corporation, and the care of such real estate as may become its property. It shall have authority to invest, sell, and reinvest, funds, subject to the approval of the Board.

SEC. 6. The Building Committee shall have supervision of the construction, reconstruction, and extension of any and all buildings used for Museum purposes.

SEC. 7. The Executive Committee shall be called together from time to time as the Chairman may consider necessary, or as he may be requested to do by three members of the Committee, to act upon such matters affecting the administration of the Museum as cannot await consideration at the Regular Monthly Meetings of the Board of Trustees. It shall, before the beginning of each fiscal year, prepare and submit to the Board an itemized Budget, setting forth the probable receipts from all sources for the ensuing year, and make recommendations as to the expenditures which should be made for routine maintenance and fixed charges. Upon the adoption of the Budget by the Board, the respective Committees shall be considered as authorized to make the expenditures detailed therein. No increase in the expenditures under any items of the Budget shall be made, except by authority of the Board of Trustees, but the Executive Committee shall have authority, in cases of emergency, to expend a further total sum not exceeding two thousand dollars in any one month.

SEC. 8. The Administration Committee shall have general supervision of the affairs of the Museum. The Committee shall hold one meeting each month with the Director at the Museum within a week preceding each Monthly Meeting of the Board of Trustees.

SEC. 9. The Auditing Committee shall have supervision over all accounting and bookkeeping, and full control of the financial records. It shall cause the same, once each year, or oftener, to be examined by an expert individual or firm, and shall transmit the report of such expert individual or firm to the Board at the next ensuing regular meeting after such examination shall have taken place.

SEC. 10. The Chairman of each Committee shall report the acts and proceedings thereof at the next ensuing regular meeting of the Board.

SEC. 11. The President shall be ex-officio a member of all Committees and Chairman of the Executive Committee. Vacancies occurring in any Committee may be filled by ballot at any regular meeting of the Board.

ARTICLE IX.

NOMINATING COMMITTEE.

SECTION 1. At the November meeting of the Board, each year a Nominating Committee of three shall be chosen by lot. Said Committee shall make nominations for membership of the Finance Committee, the Building Committee, the Administration Committee, and the Auditing Committee, and for two members of the Executive Committee, from among the Trustees, to be submitted at the ensuing December meeting and voted upon at the following Annual Meeting in January.

ARTICLE X.

SECTION 1. Whenever the word "Museum" is employed in the By-Laws of the Corporation, it shall be taken to mean the building in which the Museum as an Institution is located and operated the material exhibited, the material in study



MALE AND FEMALE YELLOWISH CHIMPANZEE (*Simia vel(ero-us)*) WITH SKELETONS.

collections, or in storage, furniture, fixtures, cases, tools, records, books, and all appurtenances of the Institution, and the workings, researches, installations, expenditures, field work, laboratories, library, publications, lecture courses, and all scientific and maintenance activities.

SEC. 2. These By-Laws may be amended at any regular meeting of the Board of Trustees by a two-thirds vote of all the members present, provided the amendment shall have been proposed at a preceding regular meeting.

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MAY, FRANK E.
WARNER, EZRA J.



GROUP OF CALIFORNIA CONDORS WITH NEST AND EGG.



GROUP OF PELECANUS AND CORMORANTS BREEDING AT QUILL LAKE, SASKATCHEWAN, CANADA.



GROUP OF WILD TURKEYS IN NORTHERN LOUISIANA.



GROUP OF WATER BIRDS BREEDING AT QUILL LAKE, SASKATCHEWAN, CANADA



NORMAN W. HARRIS.

Founder of Public School Extension of Field Museum.

FIELD MUSEUM OF NATURAL HISTORY.

PUBLICATION 160.

REPORT SERIES.

VOL. IV, No. 2.

ANNUAL REPORT OF THE
DIRECTOR

TO THE
BOARD OF TRUSTEES

FOR THE YEAR 1911.



CHICAGO, U. S. A.

January, 1912.

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ANNUAL REPORT OF THE DIRECTOR.

1911.

To the Trustees of Field Museum of Natural History:

I have the honor to present a report of the operations of the Museum for the year ending December 31, 1911.

In one respect the year just closed must be considered the most important in the history of the Institution by reason of the action of the Board of Trustees accepting a site for the new Museum building in Jackson Park, tendered by the South Park Commissioners. This clearly complies with the terms of Mr. Field's will and secures a site without cost to the Museum within six years following the date of his decease. The location provided and accepted immediately north of the present building,—highly desirable in every way and determined upon after careful consideration had been given to other sites suggested in various parts of the city,—was designated at a special meeting of the Board, held March 22, 1911; and a contract was thereupon executed between the South Park Commissioners and Field Museum of Natural History. The plans for the new building, including every detail of the interior arrangements, have been completed and approved by all parties in interest and the actual specifications for the contracts fully drawn up and approved. So far, then, as the executive staff of the Institution is concerned, its work on the new building is complete; the results of six years' consideration and study have been given final shape and expression.

The activities of the Museum have been maintained in all directions. Several important expeditions were in the field at the date of the last report and several additional explorations have been inaugurated during the year. Among these the Meek Panama expedition and the Osgood Venezuelan expedition may be referred to as promising important data and material. The return of Dr. Berthold Laufer from the Far East after an absence of over three years in the interests of the Mrs. T. B. Blackstone Fund, bringing over 10,000 specimens of Tibetan and Chinese ethnology, was a significant event in the year. Dr. Laufer at present is preparing this magnificent collection for installation, and the publication by him in the Museum series of a work on Jade is but one of the notable results of this expedition. The Curator of Botany left in August for an expedition and survey of the Northern Tropics and the Far East.

The movement for the extension of libraries and museums, universities and other institutions of learning founded for the use of citizens of Chicago was heartily supported by the Board of Trustees. The intention of this movement is to bring the educational activities of the city to the attention of the people of Chicago and to avoid as far as possible duplication of effort.

The announcement late in December of Mr. Norman W. Harris' important contribution of \$250,000 for the extension of the work of the Museum into the public schools of Chicago was greeted by the press and people of the city with marked concert of congratulation. The plans for carrying out Mr. Harris' wishes have not as yet been more than outlined, but the project is receiving the careful deliberation of the director, the curators of the Museum and the officials of the Board of Education. It will take several months to arrive at even a tentative working plan. This rare donation to the cause of education and public welfare will give life and light to the routine of the schools, instill love of nature in the scholars, make for good citizenship and constantly increase the friends and frequenters of the Museum. It is a wise, far-reaching and perpetual benefaction.

An important addition to the fire protection equipment was the installation of the reinforcing fire pump and the purchase of a number of wheeled fire extinguishers with a capacity ranging from 25 to 40 gallons. Two additional firemen were also added to the force.

The present state of the building calls for no special comment except that persistent effort is made to keep it in as safe a condition as circumstances will allow.

MAINTENANCE.—The sum of \$175,480.00 was appropriated by the Board of Trustees for the necessary expenses of maintenance during the fiscal year, and it is a matter of congratulation to report that the amount expended for this purpose was \$149,127.00, leaving the satisfactory margin of \$26,353.00. This is especially noteworthy, as numerous additions were made during the year to the force of departmental assistants. The actual amount expended, however, was \$195,780. The difference between this amount and the cost of maintenance is accounted for by special appropriations for cases, expeditions and collections purchased.

STAFF.—The Staff has been augmented by the appointment of Dr. B. E. Dahlgren as Assistant Curator, Division of Economic Botany, and the appointment of Huron H. Smith as Assistant Curator, Division of Dendrology. The death of Jesse E. Burt, who was attached to the Department of Anthropology as modeler and sculptor, has to be recorded. Mr. Burt for a long period rendered conscientious, efficient

and interestingly instructive work in the construction of life-size and miniature ethnic groups.

LECTURE COURSE.—The Spring and Autumn lecture courses are still given in Fullerton Memorial Hall by arrangement with the Trustees of the Art Institute, and it is encouraging to be able to state that the capacity of the hall was taxed at almost every lecture.

Following is the Thirty-fourth Free Illustrated Lecture Course, with the subjects and lecturers, delivered during the months of March and April, 1911:

March 4.—“Precious Stones, how they are Found and Manipulated.”
Dr. George F. Kunz, New York City.

March 11.—“The Glacial History of the Great Lakes.”
Prof. Frank Carney, Denison University, Granville, Ohio.

March 18.—“The Sugar Maple and Maple Sugar Making.”
Prof. L. R. Jones, University of Wisconsin.

March 25.—“Peking.”
Dr. Berthold Laufer, Associate Curator of Asiatic Ethnology, Field Museum.

April 1.—“Picturesque Sweden.”
Prof. James H. Gore, Washington, D. C.

April 8.—“The Real Filipino.”
Prof. Arthur Stanley Riggs, New York City.

April 15.—“Photographing the Heavens.”
Prof. G. W. Ritchey, Mount Wilson Solar Observatory, Pasadena, California.

April 22.—“Recent Discoveries of Petroleum in the United States and Mexico.”
Dr. David T. Day, U. S. Geological Survey, Washington, D. C.

April 29.—“Turkestan; the Heart of Asia.”
Mr. William E. Curtis, Washington, D. C.

Following is the Thirty-fifth Free Illustrated Lecture Course, with the subjects and lecturers, delivered during the months of October and November, 1911:

Oct. 7.—“Panama.”
Dr. Seth E. Meek, Assistant Curator, Department of Zoology, Field Museum.

Oct. 14.—“Edible and Poisonous Mushrooms.”
Dr. William A. Murrill, Assistant Director, New York Botanical Garden.

- Oet. 21.— "The R. F. Cummings Philippine Expedition: The Wild Tribes of Mindanao."
Mr. Fay Cooper Cole, Ethnologist, Field Museum.
- Oet. 28.— "From Sea Level to Snow Line in Vera Cruz."
Prof. Frank M. Chapman, American Museum of Natural History.
- Nov. 4.— "The Geology of Yellowstone Park."
Prof. William Harmon Norton, Cornell College, Iowa.
- Nov. 11.— "The Extinct Mammals of the Uintah Basin."
Mr. Elmer S. Riggs, Assistant Curator, Division of Paleontology, Field Museum.
- Nov. 18.— "Chinese Painting."
Dr. Berthold Laufer, Associate Curator of Asiatic Ethnology, Field Museum.
- Nov. 25.— "Pre-Columbian Americans."
Mr. Frederick B. Wright, Washington, D. C.

PUBLICATIONS.

Owing to the absence on expeditions of several members of the Staff, but two publications have appeared during the year in the series.

Pub. 150.— Report Series, Vol. IV, No. 1. Annual Report of the Director to the Board of Trustees, for the year 1910. 100 pages, 15 halftones. Edition 2,500.

Pub. 151.— Geological Series, Vol. III, No. 9. Analysis of Stone Meteorites. By Oliver Cummings Farrington. 35 pages. Edition 1,500.

NAMES ON MAILING LIST.

Domestic	597
Foreign	671
Total	1,268

DISTRIBUTION OF FOREIGN EXCHANGES.

Argentine Republic	12	East Africa	3
Australia	30	Egypt	2
Austria	33	Finland	1
Belgium	18	Fiji Islands	1
Borneo	1	France	56
Brazil	8	Germany	137
British Guiana	2	Ecuador	1
Canada	27	Tasmania	2
Ceylon	3	Colombia	2
Chile	2	Great Britain	111
China	1	Greece	2
Denmark	9	Italy	36

India	14	Spain	5
Japan	8	Sweden	14
Java	4	Switzerland	20
Liberia	1	Uruguay	1
Malta	1	West Indies	3
Mexico	18	Straits Settlements	1
Netherlands	19	Costa Rica	5
New Zealand	6	Cape Colony	6
Norway	8	Jamaica	1
Peru	2	Natal	2
Portugal	6	Rhodesia	1
Roumania	1	Transvaal	3
Russia	17	Bulgaria	1
Salvador	1	Guatemala	1
Sicily	1		

DISTRIBUTION OF PUBLICATIONS 'FOREIGN'.

Anthropological	307
Botanical	361
Entomological	167
Geological	358
Icthyological	169
Ornithological	209
Zoological	296
Report	671

DISTRIBUTION OF DOMESTIC EXCHANGES.

Alabama	2	New Jersey	15
Arkansas	1	New York	80
California	31	North Carolina	6
Colorado	14	North Dakota	1
Connecticut	22	New Mexico	2
Delaware	2	Ohio	18
District of Columbia	64	Oklahoma	2
Florida	2	Oregon	1
Illinois	55	Pennsylvania	40
Indiana	13	Rhode Island	5
Idaho	1	South Dakota	2
Iowa	13	Tennessee	2
Kansas	7	Texas	3
Kentucky	2	Utah	1
Louisiana	3	Vermont	4
Maine	7	Virginia	4
Maryland	10	Washington	6
Massachusetts	65	West Virginia	4
Michigan	14	Wisconsin	17
Minnesota	9	Wyoming	2
Mississippi	3	Philippine Islands	2
Missouri	14	Porto Rico	1
Montana	2	Hawaii	5
Nebraska	7	Cuba	3
Nevada	3	South Carolina	1
New Hampshire	4		

DISTRIBUTION OF PUBLICATIONS DOMESTIC..

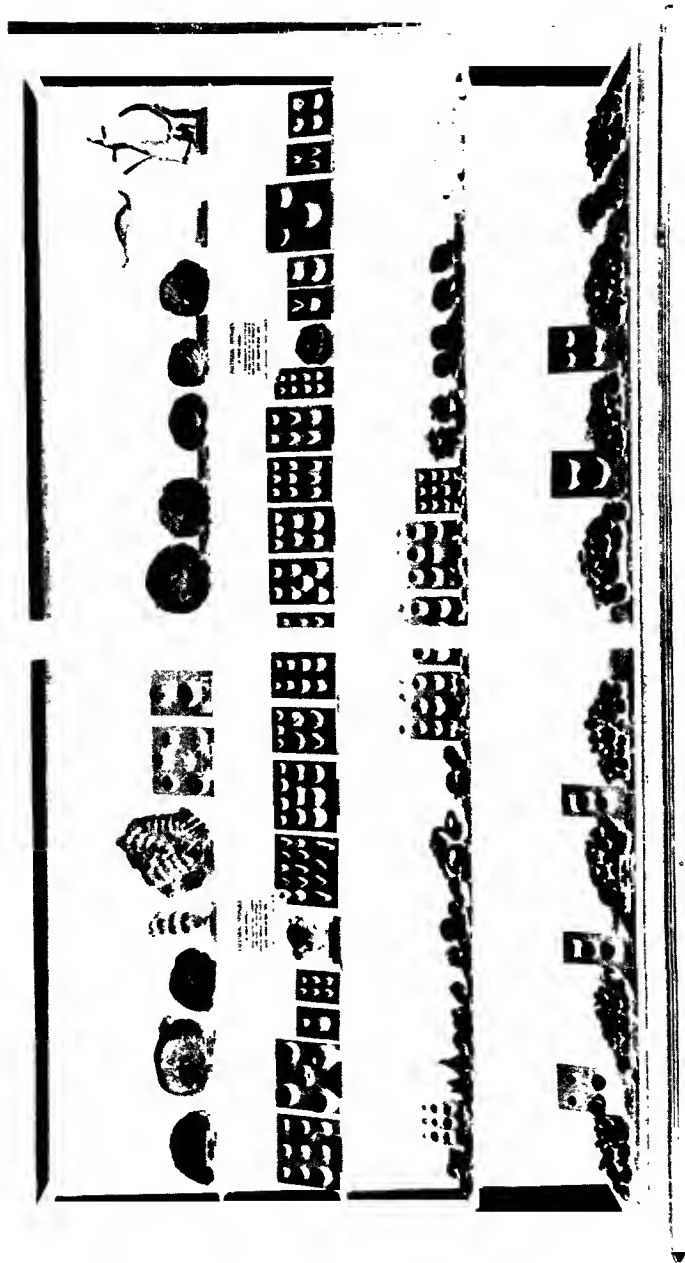
Anthropological	245
Botanical	317
Geological	334
Historical	180
Icthyological	164
Ornithological	173
Zoological	274
Report	597

LIBRARY.— The number of books and pamphlets in the Library is now 55,870, which represents an addition during the year of 2,306 books and pamphlets, distributed as follows:

General Library	38,475
Anthropological Library	2,660
Botanical Library	5,611
Geological Library	6,867
Zoological Library	2,257

This increase represents growth mainly by exchange of the Museum's publications, exchange having been made with 674 institutions. There are outstanding orders for some 54 works selected from catalogues of second-hand book dealers. It is gratifying to be able to state that a number of the older works have been secured which were needed in the Departmental Libraries. There are in the Library at the present time requisitions for several thousand dollars worth of books. These represent the accumulation of several years. Some were ordered, but it was impossible to secure them, as they were out-of-print works and were sold by the time the orders reached the dealers. No single large collection has been received either by gift or purchase. Mr. J. Pierpont Morgan presented a beautifully bound and superbly illustrated copy of his Catalogue of the Morgan Collection of Porcelains. This work is highly appreciated, as it is supplementary to the Museum's collection of a number of rare types of Chinese porcelains secured by the Mrs. T. B. Blackstone Expedition conducted by Dr. Berthold Laufer. The Catalogue of the Burlington Fine Arts Club and Bushell's Chinese Porcelain, 16th Century, colored illustrations, which were secured by purchase, further interpret this collection. Through the courtesy of the Smithsonian Institution the Museum received 13 volumes on the scientific results of the Harriman Alaskan Expedition of 1890. Further issues of this valuable work will be received as published by the Institution. A list of all accessions is appended to this report.

There were deducted from the total number of volumes some 700 titles of Exposition Literature. With the consent of the donors, this library was presented to the Chicago Public Library, where it will be



COLLECTION OF PALEOZOIC SPONGES.
Gift of William J. Chalmers and Byron L. Smith.

kept intact. The current work of classifying, labeling, accessioning and cataloguing the publications as they were received has continued without interruption. There have been written and added to the catalogue 14,014 cards. Monthly installments of The John Crerar Library Catalogue cards have been received and filed. Two additional units of the metal card cabinets were purchased to accommodate the growth of the catalogue. There have been received from the Newberry Library Bindery 879 periodicals and publications. The office of the Library has been thoroughly cleaned and redecorated and the stack room thoroughly dusted. Advantage was taken of the opportunity to borrow from the Department of Geology, for temporary use, one of the large exhibition cases. This was placed in the stack room and filled with books seldom used. This disposition temporarily relieves the crowded condition of the shelves in the stack room. The physical condition of the stack room and the Departmental Libraries cannot be improved in the present building. The Library, depending as it must to a large extent upon the larger libraries of the city for many of the rare and expensive books, takes pleasure again in acknowledging the courtesies extended by these institutions.

DEPARTMENTAL CATALOGUING, INVENTORYING, AND LABELING. — The Department of Anthropology reports that 3,250 catalogue cards were written and entered in the departmental inventory, which now number 34 volumes. The most important collections catalogued and recorded have been those made by the late Dr. William Jones and Mr. F. C. Cole in the Philippines; the Alfred R. Brown collection from Andaman and Nicobar Islands; Australian material from the University of Melbourne; material from Congo and Soudan, collected by Mr. E. E. Ayer, and Salish Indian material presented by Mr. Homer E. Sargent. Three thousand catalogue cards, forming a small portion of the Mrs. T. B. Blackstone Chinese and Tibetan collection, have been prepared by Dr. Berthold Laufer, but remain unentered in the departmental inventory, awaiting the completion of the cataloguing of the collections. The efficiency of the records of the Department has been maintained and the classified card catalogue of tribes, as well as an alphabetical record of same, has been continued. It is very gratifying to report that labels of black card with aluminum ink have been printed and placed upon improved wooden label holders of varying slants in 44 cases, containing ethnological material from California, and that in thirty-five exhibition cases devoted to the ethnology of the Hopi Indians the old and faded buff labels are being rapidly replaced with revised and rewritten black card labels. The information on the old buff printed labels accompanying the Tlingit

Indian collection, as exhibited in twenty-one cases, has been copied and is ready for the printer. The copying of these labels, instead of using same as copy for the printer, was deemed advisable, that the labels be not removed from the cases for any length of time, thereby denying the public the information upon same. Copy for labels of most of the cases containing Egyptian Archaeological and North American ethnological material, other than those cases cited above, has been prepared and is given the printer from time to time. Many specimen, case and general labels have been prepared for the Chinese and Philippine collections. The labelling of collections with the new labels greatly enhance the appearance of same. For the past year the printer has delivered to this Department 154 labels for Northwest Coast collection; 4,167 labels for California collections; 1,143 for the Stanley McCormick Hopi collection; 978 for the Mrs. T. B. Blackstone Chinese collection; 567 for the R. F. Cummings and other Philippine collections; 58 case labels, making a total of 7,067, besides 13,475 catalogue cards for various collections. All new material installed during the year in the Department of Botany has been inventoried and labelled; entries to the number of 32,029 were made during the year, bringing the total up to date to 329,839, contained in 56 catalogue books. The principal work of cataloguing in the Department of Geology during the year had to do with the Head collection, the cataloguing of which was completed. The number of entries made for this collection during the year was 6,659, making a total of 10,203 for the entire collection. In addition to the cataloguing of this collection, identification of the specimens was carried on, the unidentified material being named and previously identified material being examined for correctness. During the reinstallation of the petroleum collection the opportunity was improved to more fully catalogue its specimens, about 400 additional entries being made. To the Department library 170 books and 189 pamphlets have been added during the year and 159 cards to the card catalogue. The work of labeling has been carried on as fast as labels could be furnished by the printer. A full series was made for the gems and semiprecious stones of the systematic mineral collection. White or black board was used for these labels, according to the color of the background on which the gems were mounted. A total of 208 labels was thus prepared and installed. For the newly installed petroleum collection, 381 labels were prepared and distributed, 71 of these being descriptive. Of the labels for the clays and soils, copy for which has been prepared in full, 763 labels were made and distributed. About 30 other labels, more or less descriptive, were provided for the vertebrate and invertebrate fossils.

Ten case labels were prepared and placed on the cases in Higinbotham Hall. In the Division of Mammalogy and Ornithology the cataloguing and labelling of specimens was continued as usual. The reference collection of mammals is now quite thoroughly catalogued, with the exception of the specimens of large size stored in the iron insect-proof room in the basement of the Museum. Under existing conditions, these large specimens are not readily accessible, but other work is now advanced so it will probably be possible soon to undertake the cataloguing and arrangement of them. During the year a small number of large skulls of mammals have been transferred from the Division of Osteology to Mammalogy, and all the skulls and skeletons on exhibition have been numbered and entered in the Mammalogy catalogues, where reference to them is often necessary. A special card index of mammal skeletons has also been made and the card index of the mammal collection has been subject to continual revision. The greater part of the time of one assistant has been devoted to cataloguing and labelling birds. Altogether, 3,517 entries have been made—2,803 in Ornithology, 630 in Mammalogy, and 84 in Oölogy.

The year's work on catalogues and inventorying is shown in detail below.

	No of Record Books	Total No of Entries to Dec 31, 1911	Entries during 1911	Total No of cards written.
Department of Anthropology	34	117,530	3,250	120,530
Department of Botany	56	329,839	32,029	
Department of Geology	20	120,722	8,227	7,521
Department of Zoölogy	40	83,001	3,999	29,343
The Library	13	87,417	7,380	123,976
Section of Photography	6	93,570	6,431	

ACCESSIONS.—As in the previous year, the greater number of accessions in the Department of Anthropology were acquired by gifts. Through Mr. Stanley Field, Mr. Edward E. Ayer, Mr. Arthur B. Jones, Mr. Watson F. Blair, Mr. George F. Porter, and Mr. George Manierre, a valuable collection of jewelry from the Kabyle tribes of Algeria, Africa, was donated and is now installed in Higinbotham Hall. An interesting collection of footwear was presented by Mr. T. A. Shaw of Chicago. Mr. Edward E. Ayer enriched the collection of archaeological material from Egypt by a life-size stone statue of the Goddess Sekhmet. Mr. Homer E. Sargent presented a typical collection of Salish Indian material. While there were no large collections purchased there were several individual specimens of considerable interest and importance acquired in this manner, the principal one of this character being an Egyptian stone sarcophagus.

The Department of Botany has received the usual annual additions of herbarium specimens, among which the following accessions are noteworthy: Botanic Gardens, Sydney, Australia, 201; Ezra Brainerd, various states, 181; William C. Cusick, Oregon, 110; C. C. Deam, Guatemala, 112; Departamento de Exploracion Biológica, Seccion de Botánica, Mexico, 279; A. D. E. Elmer, Philippine Islands, 1,372; F. C. Gates, Illinois, Wisconsin, etc., 543; Geological Survey of Canada, 346; C. W. Grassley, Illinois, etc., 524; Gray Herbarium, Australia, 92; R. M. Harper, Georgia, Alabama, and Florida, 90; A. A. Heller, western United States, 304; C. Judson Herrick, New Mexico, 208; Dr. Walton Haydon, Oregon, 139; E. J. Hill, Illinois, etc., 85; O. E. Lansing, Jr., Ozark Mountains, Missouri, 307, Michigan, Indiana and Illinois, 156; Dr. C. F. Millspaugh, Turks and Caicos Islands, 423; A. Nelson, Idaho, 173; Dr. C. F. Newcombe, Victoria, British Columbia, 98; New York Botanical Garden, Cuba and Jamaica, 794, Montserrat, 608; Dr. C. A. Purpus, Mexico, 552; Albert Ruth, Texas, 226; E. E. Sherff, Illinois, etc., 1,062; H. H. Smith, Alberta, British Columbia, Washington, Oregon, and California, 747; E. Stearns, Mexico, 81. One of the most important accessions of the year is the acquisition by purchase of the private herbarium and library of the late J. H. Schuette; this collection is estimated to contain from 15,000 to 20,000 herbarium specimens representing mainly the flora of Wisconsin.

The organization (i. e., poisoning, mounting, cataloguing and distributing) of the current accessions has been kept up to date, and 18,304 sheets have been installed from the larger herbaria, secured by the Museum, in accordance with the following tabulation:

Herbaria	Estimated Contents	Organized 1911	Previously Organized
Heller	14,603		5,264
Rothrock	22,510	14,178	8,027
Schott	8,671	6	8,422
Small	21,528		12,714
University of Chicago	45,000	4,120	25,780

Additions to the organized herbarium, during 1911, arranged according to geographic locality, are shown in the following table:

	Added to Herbarium 1911	Total now in Herbarium
North America,		
Canada (in general)		
Alberta	4	1,960
Assiniboia	8	429
British Columbia	1	21
Vancouver Island	135	1,083
	148	342

North America:	Added to Herbarium 1911.	Total now in Herbarium
Canada (in general)		
Franklin	6	7
Keewatin	29	34
Mackenzie	1	11
Manitoba	14	298
New Brunswick	162	744
Nova Scotia	72	222
Ontario	110	572
Quebec	16	88
Anticosti Island	33	39
Saskatchewan	38	435
Ungava	3	77
Yukon	40	160
Labrador	58	228
Greenland	8	167
United States (in general)	25	36
Alabama	60	1,021
Alaska	230	768
American Plains	122	215
Arkansas	31	219
Arizona	648	7,798
California	1,616	19,043
Colorado	1,808	8,573
Connecticut	27	333
Dakota (North)	2	184
Dakota (South)	12	115
Delaware	89	1,187
District of Columbia	87	1,920
Florida	1,054	18,633
Florida Keys	1	639
Georgia	41	4,362
Idaho	195	1,479
Illinois	1,339	17,940
Indiana	287	4,368
Iowa	22	1,308
Kansas	10	260
Kentucky	26	676
Louisiana	63	1,054
Maine	85	1,220
Maryland	119	899
Massachusetts	463	2,683
Michigan	364	2,584
Minnesota	4	691
Mississippi	6	1,875
Missouri	1,126	2,097
Montana	84	3,271
Nebraska	14	1,163
Nevada	78	724
New Hampshire	84	1,163

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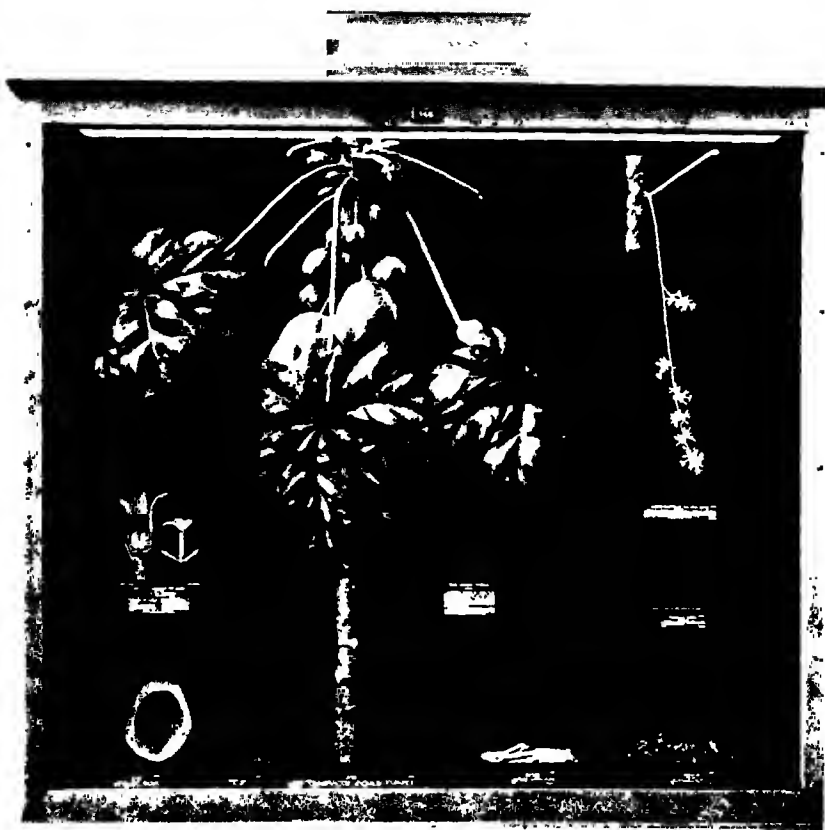
North America:	Added to Herbarium 1911.	Total now in Herbarium.
United States (in general)		
New Jersey	565	2,106
New Mexico	225	2,495
New York	259	5,065
North Carolina	408	1,857
Ohio	15	1,475
Oklahoma	9	175
Oregon	432	5,932
Pennsylvania	2,461	9,040
Rhode Island	7	481
Rocky Mountains	562	1,293
South Carolina	86	705
Tennessee	150	1,052
Texas	764	6,883
Mexican Boundary	2	1,396
Utah	132	2,061
Vermont	65	1,847
Virginia	185	1,623
Washington	19	4,548
West Virginia	1	1,281
Wisconsin	109	869
Wyoming	24	787
Yellowstone National Park	18	283
Mexico (in general)	1,638	28,242
Lower California	3	1,651
Yucatan	10	4,695
Central America:		
Canal Zone	49	52
Costa Rica	1	388
Guatemala	113	2,255
Panama	2	46
Bermuda Islands	16	643
West Indies (in general)	10	14
Bahama Islands	2	130
Andros Islands	455	1,723
Ambergris Cay	45	45
Bay Cay	1	1
Cotton Cay	7	7
Crooked Island	1	332
Dellis Cay	14	14
East Caicos	54	54
Eastern Cay	13	13
Fortune Island	1	345
Gibbs Cay	7	7
Grand Caicos	9	9
Grand Turk Island	120	193
Inagua	1	444
Little Ambergris Cay	7	7
Long Cay	13	13

North America:	Added to Herbarium 1911.	Total now in Herbarium.
West Indies (in general)		
Bahama Islands		
New Providence	1	2,398
North Caicos	74	125
Parrot Cay .	12	12
Penniston Cay	1	1
Pine Cay	4	8
Salt Cay .	16	64
Sand Cay	9	9
South Caicos	17	124
Stubbs Cay .	8	8
Cuba .	2,685	8,231
Guadaloupe	3	1,062
Haiti	3	302
Jamaica	118	6,501
Martinique	1	603
Montserrat .	698	698
New Granada	1	531
Santo Domingo .	2	476
South America:		
Bolivia	1	3,104
Brazil	33	296
Chili .	2	161
Ecuador	9	834
Guiana (British)	1	69
Guiana (Dutch)	3	3
Guiana (French)	1	2
Paraguay .	9	1,401
Peru	1	6
Venezuela	68	1,033
Tobago Island	199	363
Trinidad .	2	388
Great Britain (in general)	23	1,313
England	259	1,754
Ireland	1	10
Scotland	16	381
Wales	2	30
Europe (in general)	47	70
Austro-Hungary	151	5,953
Belgium	12	195
France	509	4,045
Germany	423	5,952
Greece	23	512
Italy .	198	1,815
Corsica	2	49
Sicily	7	123
Norway	14	1,010
Portugal	1	6
Cape Verde Islands	5	5
Madeira Islands	3	17

118 FIELD MUSEUM OF NATURAL HISTORY — REPORTS, VOL. IV.

	Added to Herbarium 1911.	Total now in Herbarium.
Europe (in general)		
Russia	233	1,489
Nova Zembla	29	29
Spain	34	231
Canary Islands	12	17
Sweden	32	8,996
Switzerland	298	2,034
Asia (in general)	79	82
Asia Minor	3	3
Turkey	100	279
Ceylon	1	9
China	44	212
India	128	856
Japan	1	101
Java	29	57
Kamtschatka	4	6
Malay Peninsula	3	12
Siberia	33	439
Turkestan	32	83
Africa (in general)	50	3,887
Abyssinia	3	195
Algeria	39	105
Cape Colony	1	1,594
Egypt	7	17
Mauritius	2	6
Tibet	13	291
Oceanica, etc.		
Australia (in general)	441	1,837
New South Wales	77	343
Queensland	15	16
Western Australia	9	9
Tasmania	9	191
Dutch East Indies	5	5
Sandwich Islands	145	420
New Zealand	1,294	1,313
Philippine Islands	1,421	4,163
Borneo	5	7
Molucca Islands	1	1
Samoa	3	23
Sumatra	2	3
Horticultural sources, etc.	773	1,986

The total increase of the organized herbarium during the year amounted to 31,092 specimens. The accessions deserving of especial mention in the Department of Geology were the following: By gift were received from the late Prof. W. P. Blake, two full-sized sections of the Noon meteorite, and from Dr. Walton Haydon of Marshfield, Oregon, 141 specimens of fossils of the Oregon Tertiary and 8 specimens of concretions. By exchange, specimens of the Vigarano and Cowra meteor-



THE PAPAW (*Carica Papaya*) OF THE AMERICAN TROPICS.

ites were received. By collection about 400 specimens of invertebrate fossils from Illinois and Kentucky were obtained. By purchase were obtained an exceptionally fine slab of Ordovician erinoids from Ohio and three fine specimens of vivianite from Colorado. The total number of accessions added to the Zoology collections is 1,381, of which 357 are mammals, 485 birds, and 539 birds' eggs. These are summarized as follows: from Museum expeditions 249 mammals, 464 birds, and 7 birds' eggs; by purchase 100 mammals, 9 birds and 532 birds' eggs; by gift 8 mammals and 11 birds; by exchange 1 bird. Except for the work on the Panama expedition there have not been many additions made to the collection of fishes and reptiles during the year; but the Panama expedition in connection with the Smithsonian has largely increased the collection, at a minimum cost. No noteworthy acquisitions to the collection in the Division of Entomology can be recorded for the period of time under consideration. As the following summary will show, no insects were purchased, neither were there any rarities among the limited number of specimens received from various sources. The insects accessioned during the year 1911 were 428 local insects collected by William J. Gerhard, 215 local insects collected by A. B. Wolcott, 49 insects collected on Museum expeditions and 64 insects presented by various donors.

EXPEDITIONS AND FIELD WORK.—After completing the work among the Bagobo referred to in the last Report Mr. Cole, in continuing the ethnologic survey of the Philippine Islands under the fund provided by Mr. Robert F. Cummings, went to the Manobo, a tribe living along the Padada River and in the Malalag swamps of the Davao district. From them he went to the Bilaan, a little-known tribe of the interior. Owing to a serious religious outbreak among the members of these two tribes, intensive study was greatly hindered, but considerable headway was made in the study of their laws and religion, particularly as related to their custom of annual human sacrifices. A collection of about 550 pieces was secured from that district. A small collection was also obtained from the Divavaon, an interior tribe. The last collection was made on the southeastern coast of Mindanao, among the Mandaya. The people of this tribe live in small villages, often building their houses high in the branches of trees. This tribe has a rather advanced material culture, possesses many beautiful weapons, and a distinctive type of dress, all of which are fully shown in the collection. More than 400 specimens and much valuable information had been secured when a severe illness caused Mr. Cole to leave the district and return to the States. Among the four tribes named he obtained two hundred physical measurements, three hundred

negatives illustrating the life of the people and the country they inhabit and two dozen phonograph records. The work of securing additional Hopi ethnological material, under the recent Stanley McCormick grant, was entrusted to Assistant Curator Owen. As the previous Hopi collection had been made chiefly at the third mesa, a house to house search of the first and second mesas was made and yielded 1,600 specimens. Prominent among these are masks, head-dresses, tihus, an old Oaqol altar (fragmentary) of 45 pieces, an original Balolokon screen, fetishes, charms, bahos, varieties of the throwing stick; food stuffs, medicines, basket materials, textiles, games, stone implements, necklaces, jewelry of silver, moccasins, floor smoothing stones, mortars for foods and paints, cotton seed, also a comprehensive collection of ceremonial paraphernalia. More than 200 photographs were made of scenes of Hopi life and surroundings. A most gratifying report from Dr. Lewis, who has been for some time past and is now conducting the Joseph N. Field, South Pacific Islands expedition, has been recently received. Dr. Lewis reports that since making his last formal report he spent six weeks in the British Solomon Islands, during which time he visited several of the different islands and obtained quite a number of specimens, though from the museum standpoint there is not very much left in most of these islands, except in the most inaccessible parts, and that, as it would take a year or so to visit the different islands and make a representative collection, he deemed it inadvisable to stay longer, so he secured the services of a resident who has occasion to visit most of the islands on business, to make a collection for him. In the early part of January Dr. Lewis returned to Sydney, intending to visit the New Hebrides and New Caledonia next, as it is impossible to get directly from the Solomon Islands to these other groups. On account of the season and the condition of his health Dr. Lewis thought it wisest to postpone his visit to these islands until April, and in the meantime took a trip to New Zealand by the way of Fiji, Samoa and Tonga. In Fiji he procured a few specimens and arranged to get additional ones. At Auckland Dr. Lewis procured a few very rare and valuable specimens, chiefly from the Solomon Islands. After spending a week or more in the geyser district he proceeded to Wellington and spent a week there, studying the collections in the Dominion Museum, where he arranged with the Director of that Museum to exchange material collected in the field for a collection of photographs, etc. From Wellington he returned to Sydney by way of the South Island and Melbourne, as he wished to visit the Museums at Dunedin, Christ Church and Melbourne, and obtain letters from the commonwealth officials at Melbourne to the officials in British New

Guinea and New Hebrides. He reached Sydney in time to catch the steamer for New Hebrides on April 1st. It takes six weeks to make a round trip of the islands and return to Vila, the chief port. In addition to this trip he spent two months in Malekula and Ambrym. Here he succeeded in getting a number of very rare specimens, including some of the large drums and carved wood figures, most of which have been forwarded to the Museum, but unfortunately, owing to bad weather, the steamer was not able to stop at one place where he had a number of specimens so he arranged for these to be sent on later. He reports that arrangements with a missionary in the Santa Cruz group were made to send a collection to the Museum, as it would have taken too much time for him to have gone there. After packing his collections at Vila he proceeded to New Caledonia, where he spent a month visiting the wildest portions of the northern end of the island and getting a very interesting, though not a very large collection. He then returned to Sydney and there purchased a few rare specimens which he had not been able to get in the islands. He further reports that he has also arranged for a further collection from New Caledonia, which will probably not be ready for some months, as it will take some time to get it together. The collector who has agreed to do this has done quite a little collecting and made the collection for the Paris exposition among others. Dr. Lewis reports that he cannot, in the time he has, either make these collections himself or wait for others to make them. The region is too vast. Specimens are getting scarce in these islands, and unless things are obtained at once there will be nothing left. Dr. Lewis is now on his way to Simpson Hafen, where he hopes to buy a collection which will nicely fill out the collections from the German colony, it being from those islands he was unable to visit. From there he proposes to proceed to British New Guinea as soon as possible. Assistant Curator W. H. Osgood with S. G. Jewett, assistant, conducted an expedition to Venezuela and Colombia from January to April. They entered the port of Maracaibo, Venezuela, and, working in that vicinity a short while, then proceeded inland, finally reaching the high country lying on the boundary between Venezuela and Colombia some 200 miles south of Maracaibo. Their collections, while not particularly large, are unusually varied and valuable. They number 232 mammals and 462 birds, besides a few fishes and reptiles. Among the mammals are 10 species and subspecies new to science and some eight genera new to Field Museum, while practically all the species were previously unrepresented in the collections and a considerable number are not seen in museums outside of Europe. Of particular interest and value were the discovery

of the habitat and the acquirement of complete specimens of the rare marsupial, *Caenolestes*, living representative of the otherwise extinct family Epanorthidæ and of which no perfect specimens had ever before been taken. Work on the birds is in progress and will probably prove to include at least as many novelties. No other expeditions of importance were conducted in 1911. The Curator of Zoology made a number of short field trips for the purpose of study in relation to habitat groups and in studying habits of mammals in connection with his forthcoming work. Artist C. A. Corwin accompanied an expedition from the University of Iowa to Laysan Island in the Pacific Ocean west of Hawaii. Through his cooperation with their party, certain birds and group material are to be obtained for exhibition groups in this Museum. Through the kindness of Mr. Cyrus H. McCormick, Messrs. L. L. Pray and C. F. Brandler spent two weeks in June at White Deer Lake, near Champion, Michigan, where they obtained an excellent series of beaver and ample material for a habitat group of these animals. Mr. Friesser, taxidermist, has made various short trips in the vicinity of Chicago for miscellaneous material needed in his work. During the time from January 1 to May 24, the Assistant Curator, Dr. Meek, was in Panama collecting fishes and reptiles with representatives of the Smithsonian Institution, which is now engaged in making a biological survey of the Canal Zone and the adjacent region. Dr. Meek returned early in June to Chicago and has since devoted the greater portion of his time to the preparation of an account of the Fresh-water Fishes of Central America, with especial attention to the fishes listed from the fresh and brackish waters of Panama, which is preliminary to a report of the Panama collection. The collection made in Panama by the Assistant Curator and the representatives of the Smithsonian Institution comprises 440 species, about 25 of which appear to be new. This collection, at present in the United States National Museum, is in an excellent state of preservation, and has already been catalogued and arranged for future study. The larger fishes, more than 2,800 specimens, are supplied with collector's tags, and are preserved in stone jars. The remainder, about 15,000 specimens, are (with the exception of a small portion of the fresh-water fishes which are in this Museum) in bottles, occupying a little more than 60 square feet of shelf-room. The small collection here (about 300 specimens) contains the apparently new species of fresh-water fishes. The reptiles collected on this expedition are in the U. S. National Museum. Dr. Meek reports these animals as far from abundant on the Isthmus, and this collection contains only about

150 to 200 specimens. There were also collected on this expedition some shells and crustaceans. As soon as these collections are studied they will be divided between the U. S. National Museum and Field Museum. The Panama Railroad and Steamship Company transported the entire party and equipment from New York to Colon and return free of charge; also provided the party with living quarters when in the Canal Zone free of charge, with free transportation on the Panama Railroad, besides granting other favours. The Curator of Botany began in February a botanical exploration of the Turks and Caicos Islands, Bahamas. He chartered and provisioned a small sloop, enabling him to explore the following islands that would otherwise not have been possible: South Caicos, Long Cay, East Caicos, North Caicos, Parrot Cay, Stubb's Cay, Pine Cay, Dellis Cay, Little and Great Ambergris Cays, Sand Cay, Salt Cay, Cotton Cay, Penniston Cay, Eastern Cay, Gibbs' Cay, and Grand Turk Island. The expedition resulted in a very satisfactory reconnaissance of these islands and concluded the botanical survey of the Bahamian Archipelago that has received the combined attention of this Museum and the New York Botanical Garden for the past seven years. The Assistant Curator of the Division of Dendrology has spent the full year in field work upon the Pacific Coast, securing material for the North American Forestry Collection. He has shipped several consignments of tree material from Oregon and California; a large number of herbarium specimens, economic material, dried fruits, photographic negatives, and other interesting specimens. His work includes the securing of a Redwood trunk, "Wheel" and large plank intended for trophies in the Dendrological Hall of the new building. Mr. Lansing, of the Division of Herbarium, who has been collecting in the southern Lake Michigan area for the last decade, has continued the work during the past season through, making several trips in Michigan from Benton Harbor to New Buffalo. He also spent the month of June in a botanical investigation of the Ozark Mountains, Missouri. The Curator of the Department started September 6th, on a tour of the World in quest of additional economic material. His intention is to work in Japan, China, Philippines, Straits Settlements, Java, Ceylon, and India. The Assistant Curator of Invertebrate Paleontology obtained by collection about 150 specimens of invertebrate fossils at Chanahon and Thornton, Illinois, about 100 specimens at the Falls of the Ohio, near Louisville, Kentucky, and 134 specimens at Traverse Bay, Michigan. Following is a list of the expeditions since the date of the last report:

Locality.	Collector.	Material
Western Venezuela and Eastern Colombia	W. H. Osgood,	Birds and mammals.
Pacific Coast	H. H. Smith,	Timber, economic material and herbarium specimens.
Bahama Archipelago	C. F. Millspaugh,	Herbarium specimens and eco- nomic material.
Ohio	C. L. Owen,	Archaeological investigations.
Kansas	S. C. Simms,	Ethnological investigations.
South Missouri	O. E. Lansing, Jr.,	Herbarium specimens.
Champion, Michigan	C. Brandler,	Skins of Beavers and accessories for groups.
Wisconsin and Illinois	C. B. Cory,	Group studies.
Tropics of the Old World	C. F. Millspaugh,	Economic material and herbarium specimens.
Louisville, Ky. and Chan- ahon, Illinois	A. W. Slocum,	Invertebrate fossils.
New York and Washington	C. B. Cory,	Examining and comparing speci- mens in museums.
Michigan, Indiana, and Illi- nois	O. E. Lansing, Jr.	Herbarium specimens.
New Buffalo and Dowagiac, Mich.	C. B. Cory and L. L. Pray,	Material for groups.
New Guinea, New Hebrides, New Caledonia, etc.	A. B. Lewis,	Ethnological.
Panama	S. E. Meek,	Fishes and reptiles.

INSTALLATION, REARRANGEMENT AND PERMANENT IMPROVEMENT.—During the early part of the year 94 cases, containing California ethnology and material from the Pawnee, Wichita, Caddo, and Arikara Indians, and material from South America, were removed from Halls 30, 31 and 34 and Alcoves 106, 107 and 108 to the East Court, so that cases of installed material in the Department of Geology could be removed from the West Annex and accommodated in the above vacated Halls and Alcoves. In order to make this arrangement, it was found necessary to remove from public exhibition the contents of 32 cases of North and South American archaeological material, which has been carefully packed, labelled and stored where it doubtless will have to remain during the occupancy of the present building, as space for its proper display is not available. Hall 56, containing twenty-seven standard cases of installed Ainu material and material from Saghalin and Siberian tribes, and from India, Ceylon, Siam, Burma, and Korea, has been repainted and refloored and arranged for inspection by the public, which for some time past has been denied this privilege, due to crowded conditions existing in the rotunda of the East Annex, which no longer exists, and which, though not installed

at present, is expected to be devoted to overflow of collections from neighboring halls or temporarily installed collections. Installation of Chinese material of the Mrs. T. B. Blackstone collection has progressed favorably and material filling nine cases has been labelled and attractively installed in double Halls 43 and 44 (which were until recently occupied by the Department of Botany as a storeroom). These halls have been thoroughly renovated and refloored. When the new cases are assembled and accepted these halls will be opened for public inspection. Besides these nine permanently installed cases of Chinese material, there have been temporarily installed six cases of Chinese bronzes. It is hoped that hall 45 will shortly be renovated and put in proper condition for the exhibition of material of the Mrs. T. B. Blackstone collection, which cannot be shown in the adjoining Halls (43 and 45). The occupation of this hall for the above purpose will soon be necessary. Hall 42, which has also recently been used as a storeroom for botanical material, has been turned over to Anthropology, and has been renovated, and will be used as a Philippine Hall. The following Hopi altars: the Sakwá Lan (Blue Flute). Lagon, Tao (Singer), Yasangwu (New Year) and Ahl (Horn), have been reproduced by Mr. H. R. Voth under the Stanley McCormick fund and are ready for installation; two other altars, the Niman (Going Home) and Kwan (Agave) are advancing toward completion. Needed accessories for certain altars previously constructed are also being prepared. Installation of Philippine material to the extent of sixteen standard cases, forming parts of the R. F. Cummings expeditions, have been installed. A group containing ninety-three miniature figures illustrating a Bontoc Igorot village and various phases of the life and industries of the natives, such as social and ceremonial life, blacksmithing, carpentering, basket weaving, spinning thread and weaving cloth, pottery making, pounding rice, feeding pigs, man and woman's transportation, and architecture, will shortly be placed on exhibition. A group of life-size human figures, representing pottery making by the Igorot of the Samoki village of the Bontoc Igorot has also been completed in detail. This group represents three adults and one child. These two groups are the work of Modeler Gardner. Arrangements are being perfected for installation of the stone Egyptian sarcophagus and of a life-size stone figure of the Goddess Schkmet. Owing to the great weight of these two objects, it is necessary to reinforce the support of the floor during the progress of these specimens to their exhibition localities in Egyptian Hall. There have been removed from temporary installation upward of 500 Moro specimens which will be installed in

standard cases, and for which specimen, case and general labels have been prepared. There has also been removed from temporary exhibition all Amburayan Igorot material, which is also being prepared for permanent installation. Labels for this group are being prepared. The temporary exhibition of printing and engraving in the Newberry Library has been greatly strengthened by material loaned from the Mrs. T. B. Blackstone collection. Since the employment of an assistant, whose time has been devoted primarily to the repairing of broken and injured material, over four hundred specimens, which include many valuable objects in clay, ivory, jade, porcelain, metal and wood, have been prepared for exhibition. Owing to the steadily increasing area occupied by installed material and material now ready to be installed, it seems as though it would be necessary to make provisions for the relocating of physical anthropology material now stored in Hall 53, and the removal and caring for the vast amount of material stored in double Hall 46-47. These halls will have to be soon devoted to the exhibition of the Joseph N. Field collections and similar material. In the Department of Botany little new material has been received during the past year to augment the economic installations, although considerable reinstallation has been accomplished to render the exhibits more complete, educational and attractive to the public. The new material inserted has come mainly from the Section of Modelling. The following reproductions and models have been installed during the year: To the Calla Family (*Araceae*) has been added a full size plant of *Anthurium acaule* in situ upon a tree limb. This reproduction shows the root system exemplifying an aerophyte; several full-size leaves and one as yet unexpanded; three flower clusters; one with the bract unfolded, one with the ovaries unfertilized, and one heavy with developing fruits; and a full ripe fruiting spadix depending with its weight. Associated with this are a male and female inflorescence of the Jack-in-the-Pulpit (*Arisæma triphyllum*), cut open to show the flowers at the base of the spadix, and a highly enlarged male and female element. The Lily Family (*Liliaceae*) has been further illustrated by additional economic material and a model of a complete plant of the Aloe (*Aloe vera*) in full flower. The Papaw Family (*Caricaceae*) has been augmented by a reproduction of a complete tree-top of the Papaw (*Carica Papaya*), bearing three fully expanded leaves, each about two feet in diameter; a number of leaf stems; a complete female inflorescence with three developed and many undeveloped flowers and twelve fruits grading from a young expanding ovary to a full ripe papaw. With this is associated a complete male inflorescence, wrought in glass, bearing



MINIATURE REPRODUCTION OF LIFE AND ACTIVITIES IN IGOROT VILLAGE, BONTOC, LUZON, P. I.
R. F. Cummings Philippine Fund

about two hundred buds and flowers; the male and female flowers enlarged and sectioned, showing the essential organs in situ; and a natural size ripe fruit in longitudinal section. See Plate XVIII. To the Orange Family (*Lurantiaceæ*) has been added a reproduction of a complete branch of the Grape Fruit (*Citrus decumana*) in leaf, flower and fruit, the cluster of fruits showing the grape-like aggregation that gave rise to the name. Associated with this is an enlarged flower revealing all its characters, and a leafy branch-tip of the Kumquat (*Citrus japonica*) and the Lemon (*Citrus Limonum*) in fruit. The Lignum Vitæ Family (*Zygophyllaceæ*) has gained additional interest in the reproduction of a complete branch of the Lignum Vitæ (*Guaiacum officinale*), including the leaf, flower, and fruit characters executed entirely in glass. See Plate XXVII. Associated with this is an enlarged flower of the same species sectioned to reveal its characteristics, and fruit of the *Guaiacum sanctum* entire and in transverse section to illustrate the ovarial characters. The case devoted to the Custard Apple Family (*Anonaceæ*) now contains a natural size reproduction of a complete branch of the Custard Apple (*Anona muricata*) bearing a full complement of leaves, buds, flowers, and immature and full ripe fruit. Associated with this are: an enlarged flower of the same species sectioned to show the characters and approximation of the essential organs; a branch tip of Ilang-Ilang (*Canunga odorata*) with two leaves and a complete cluster of fruits (see Plate XXV), a branch of the common Papaw (*Asimina triloba*) in leaf and fruit, and a full ripe fruit entire and in longitudinal section showing the relationship and character of the pulp and seeds. The Pomegranate Family (*Punicaceæ*) is now complete with a full size branch of the Pomegranate (*Punica granatum*) in leaf, flower, and fruit; this is accompanied by an enlarged flower, in section, showing the ranked stamens, and a ripe fruit in two sections revealing the peculiar two-storied arrangement of the seeds. The Soap-berry Family (*Sapindaceæ*) has received the addition of a complete leafing, flowering, and fruiting branch of the tropic Akee (*Blighia sapida*). Associated with this is a portion of the inflorescence, enlarged, showing both a male and a female flower with the essential organs revealed. The first of the sixteen cases devoted to the Bean Family (*Leguminosæ*) has been installed with: a reproduction of complete fruiting, and flowering leafy branch of the Tamarind (*Tamarindus indica*, *Cæsalpiniaceæ*). This reproduction is natural in its woody growth and its ripe fruits; the young twigs, leaves, and flowers are added in glass. Associated with this is a model of a Pea flower (*Pisum sativum*, *Fabaceæ*) enlarged in section to show the peculiar and characteristic arrangement of the

essential organs; natural size flowers in three stages of development, and another separated to illustrate the peculiarities of the floral envelope. The balance of the case is occupied by mounted branch-tips of various large species, showing in each instance natural clusters of ripe fruits characterizing various groups in this large order. The Mangrove Family (*Rhizophoraceæ*) has been augmented by a model showing the life-cycle of the Mangrove (*Rhizophora Mangle*); flowers and fruits; seeds germinating while the fruit is still on the tree, and the elongated downwardly projecting radicle; free floating and fixed seedlings; roots dropping perpendicularly from the branches. An enlarged model of the flower; a pistil in vertical section, and reproductions showing different stages in the germination of the seed are incorporated in the installation. See Plate XXII. In a number of other cases the installed material has been augmented through new elements, and the labelling has been kept up in all. The congested condition of the herbarium has been temporarily relieved by transferring a portion of the collection to the first gallery, thus giving sufficient case-room for a distribution of all *inserenda* on hand and to accommodate the growth of the collection during the coming year. This arrangement infringes to a certain extent upon the space of the workrooms and renders reference to herbarium specimens somewhat less convenient, but it enables further organization of the rapidly growing herbarium to continue. The labors of the Geological staff were chiefly devoted during the year to the removal of the major part of the collections from the West Annex to the Main building. Twenty halls were vacated and the specimens and cases which they contained were, after their removal, for the most part reinstalled. It is gratifying to state that this work was accomplished without the slightest injury to specimens or cases. More than two hundred cases with their contents, many of them of great weight, were moved, and in addition the Department library, paleontological laboratory, Department offices, and a large quantity of stored material, apparatus, etc. The disposition of the contents of the Halls in order was as follows: From Hall 61, four cases and the Glyptodon mount were moved to Hall 36. From Hall 62 the collection of meteorites was moved entire, with the exception of one case, to Alcove 106. The systematic minerals, Halls 63 and 64, were moved to Halls 30 and 31, with the exception of two cases placed in Alcove 105. The collections illustrating structural geology, Hall 65, were moved to Hall 31, with the exception of the gypsum cave, which was moved to Hall 36. The limestone cave and exhibit of basalt columns in this Hall were dismantled and placed in storage. The rock collection, Hall 66, was moved to and installed in Hall 35. The

larger and structural specimens in this Hall were moved to Hall 31. Space for the entire collection of marbles and building stones was found in Hall 34. Nine cases of the clays and sands collection and one case of mineral paints of Hall 68 were moved to Hall 33. Two cases of soils from Hall 68 were moved to Hall 35, and the remainder of the collection was placed in storage. The large coal map of the United States, Hall 69, was removed and placed in storage, as were also the accompanying coal specimens. Of the collection of carbon minerals, Hall 70, space was found for six cases in Hall 35, and the Australian coal column was moved to Hall 33. The contents of the remaining six wall cases of this collection were stored. Ten wall cases and two floor cases of the petroleum collection were moved to Alcove 107. The remainder of this collection was packed and stored. The oil refinery exhibit in this Hall was dismantled and such of its contents as were deemed desirable for preservation were stored. The collection of gold, silver and lead ores, Hall 72, was moved entire to Hall 34. Similar disposition was made of the collection of ores of the base metals occupying Hall 79, with the exception of three large specimens of zinc, nickel and manganese ores. These it will be necessary to store. The large specimens in Hall 80 were placed in storage. The collection of salts and abrasives comprising eighteen cases was moved from Hall 78 to Hall 31. Space was found for the majority of the relief maps formerly exhibited in Halls 75 and 77 in Hall 34 and Alcoves 105, 106, and 107. To recapitulate, the present disposition of the collections moved is as follows: In Hall 30 have been placed twelve floor cases and fourteen wall cases of the systematic mineral collection; one case of gems; one case of copper ores; and one case of nickel ores. In Hall 31, four floor cases and two wall cases of minerals; eight wall cases and ten floor cases of salts and abrasives; and fifteen wall cases of structural specimens and rocks. In Hall 33, nine floor cases of clays and sands; one wall case of mineral paints; one case of coal; and one case of meteorites. In Hall 34, nine floor cases and four wall cases of marbles and building stones; ten wall cases and fifteen floor cases of gold, silver and lead ores; ten wall cases and twelve floor cases of ores of the base metals; the model of the Chandler iron mine; and thirty-eight relief maps. In Hall 35, six floor cases of coals; eight floor cases of systematic rocks; two floor cases of clays and soils; two cases of relief maps. In Hall 36, four wall cases of Quaternary fossils; the gypsum cave and two relief maps. In Alcove 104, sixteen relief maps. In Alcove 105, six relief maps and two cases of gems and crystals. In Alcove 106, six wall cases and four floor cases of meteorites. In Alcove 107, ten wall cases and two floor cases of

petroleum; and adjoining, seven relief maps. The laboratory of vertebrate palontology formerly occupying Hall 73 was moved to the section of taxidermy. Space was also found in this section for storage to the number of several hundred of the field bundles which are to be worked out later. The greater portion of the Department Library was moved to Alcove 118. By erection of a partition in front of the alcove an enclosed space was obtained in which the books are kept securely and at the same time made accessible. The economic and mineral specimens stored in trays and formerly occupying Hall 75 were moved to Hall 60. Reinstallation of the specimens in the cases since their removal has for the most part been completed and in connection with the work some improvements and additions have been made. The case containing the Chalmers crystal collection and the case of ornamental stones was provided with finished glass shelves and the specimens reinstalled upon them. Some specimens were added to the case of ornamental stones and the entire collection was relabelled. Nine of the onyx slabs in the onyx collection were framed, improving their preservation and appearance. Several of the relief maps were repainted and framed, making this work, which has been carried on at intervals for some years, now practically complete. In repainting each map the opportunity was improved to bring the detail of the maps up to date, alterations being found especially necessary on the maps of the Grand Canyon, Yosemite Valley and Yellowstone Park. Other relief maps which were thus repainted and framed were those of Palestine and the Arkansas River. Considerable work was done before the removal of the petroleum collection in the way of placing the specimens in new containers and reorganizing the collection. The Standard Oil Company generously provided for the collection a full series of new cases, and installation in these had been nearly completed at the time of removal. The cases provided were nine wall cases, six flat floor cases and two pyramidal floor cases, all of the standard Departmental type. An important change made in the installation of the collection consisted in the adoption of a new jar for the liquid specimens. The new jar adopted holds a much smaller quantity than the old but makes nearly as much display, and the optical characters of the specimens are better brought out. The jars used were of a special design, sixteen inches high and two inches in diameter. The expense of supplying them was also generously borne by the Standard Oil Company. Another change made was to remove to closed cases the tubes of oil sands which have been so exposed as to have become badly soiled. The cases now used for these sands are of the standard pyramidal type.

In order to permit turning of the tubes in the case for examination of their contents, the tubes were mounted in racks, connected by belts to pulleys and these to a wheel outside the case, so that the visitor, by turning the wheel, can turn the tubes and thus examine their contents in detail. Two cases containing forty tubes each were thus installed and fully labelled. Large additions were made to the series illustrating the use of the by-products of petroleum, these uses having greatly increased in the time that has elapsed since the collection was originally formed. In moving the collection it was necessary to store all of this series, but it will be available for future exhibit. The portion of the collection now on exhibition occupies ten wall cases and two floor cases. It includes 232 specimens of petroleums, 114 specimens of lubricating oils, 57 specimens of vaselines and allied products, 40 quantitative specimens, and 80 specimens of oil sands. The series of by-products obtained in the production of coke was installed in uniform sealed glass tubes, in order to insure the preservation of the materials and make a better installation possible. A series of models to represent the development of the blast furnace has been begun by the construction of a model of a modern iron blast furnace and some of its accessories. The design of the model was based upon careful studies made by the Assistant Curator, through the courtesy of the Illinois Steel Company, of furnaces at South Chicago. The model has been built so as to occupy one half of one of the wall cases used for the ores of the base metals. It consists of two equal portions, one showing the exterior appearance of the furnace and accessories, and the other the same in sectional form. All are built on a scale of two feet to the inch. In the group giving the exterior appearance, a tower elevator for bringing charges to the top of the furnace is represented at the extreme right. This is connected by a bridge to a charging platform in the furnace proper. The furnace on the scale mentioned represents one 60 feet in height. The tap hole is in front and the slag eye on the right. At the left is shown a downcomer to carry off the gases and at its base is a self-dumping dust-catcher. At the left of this is a single hot-blast stove with pipes, valves, etc. In the sectional group complete longitudinal sections are shown of the various members. In the section of the furnace the brick work, water-cooling pipes, charging bells and other pipes and valves are shown. A charge of real ore, fuel, etc., is also represented, passing to a molten state at the bottom. The sections of the stove, dust-catcher and downcomer also show full details. In addition to the sectional character of the construction above ground, the under-ground connections and foundations are represented. In the laboratories of vertebrate paleontology the

work carried on has been, in addition to the moving of the laboratory and specimens to new quarters, chiefly the preparation of the Eocene material obtained by the expedition to Utah in 1910. Chief in importance of the material prepared, and alone of sufficient value to repay several times the cost of the expedition, is a skull of *Eobasileus*. This skull, of which only two others are known, is of large and striking form and well preserved. Good skulls of two genera new to science which were obtained by the expedition have also been prepared. There have also been prepared from this series five skulls and four lower jaws of *Metarhinus*. This is much the largest collection of this genus ever made, the genus itself having been known for only three years. The material contains two new species and will furnish several other new characters. Other material prepared includes three skulls and one pair of lower jaws of *Dolichorhinus*, one skull of *Amynodon*, one skull of *Protelotherium*, one skull and one pair lower jaws of *Telmatherium*, one skull and one pair of lower jaws of *Mesonys*, and one lower jaw of the large carnivore *Harpagalestes*. The large skull of *Brontotherium ramosum* obtained by the expedition of 1906 has been placed on exhibition with the other titanotheres skulls. The chemical laboratory at Jefferson Avenue was available for use during part of the year and several complete quantitative analyses were made there. Among these was one of the Noon meteorite and several of the Brazilian favas associated with the diamond. The latter analyses showed the presence of two minerals new to science. Removal of the laboratory during the latter part of the year to a new location compelled the discontinuance of this work until new facilities can be provided. Several of the sections of iron meteorites, which had been poorly etched when received, were repolished in preparation for proper etching. Subsequent to the moving of the mineral collection the rearrangement of the study series of this collection was undertaken and completed for the silicates. The specimens comprised in this group were placed in individual trays, labelled and distributed according to species and localities. Preparation of plans for the Departmental offices and laboratories in the new building occupied the time of the staff during part of the year. The plans made were worked out with considerable care as to detail, and it is believed that the equipment planned for will provide the fullest possible facilities for the various lines of work which are to be undertaken. Of the four large bird groups being produced under the Field-Sprague Ornithology Fund one (a habitat group of the Loon) has been opened to the public, and the others are all in an advanced stage of preparation. The unusual amount of accessory material—leaves,



HABITAT GROUP. LOON (*Gavia immer*)
Field-Sprague Ornithology Fund.

flowers, etc.—to be made for them has delayed the work. Two of them are now practically finished and the work of final installation will soon be under way. The principal birds to be shown in these groups are the Loon (now on exhibition), the Great Blue Heron, the Whooping and Sandhill cranes, and the Golden Eagle. The group of American Antelopes or Prongbucks was completed early in the year. It consists of five animals, mounted by Taxidermist Friessner, in a setting representing the arid elevated region of northern Mexico, with reproductions or actual specimens of cacti, agaves, ocotillos, and other desert plants, and a large background painted by Mr. Corwin. This is the first flat background to be used for large groups, and it seems very successful especially, for a group of this size (9 x 14), having a large single plate-glass front and skilfully adapted foreground, producing an effect of distance and atmosphere that is most realistic. A group of grizzly bears of the same size and with a similar background is practically completed and will be finally installed early in 1912, now being delayed only by the necessity of subjecting some of the accessories to a long drying process. A large habitat Beaver group is well under way and seems likely to prove one of the most attractive groups. The specimens, houses, etc., were secured by permission of Mr. Cyrus H. McCormick on his preserve near Champion, Michigan. The group should be finished early in the coming year. A background has been painted for a large group of the Olympic or Roosevelt Elk, and the specimens are in hand to be used for it. The preparation of a group of Alaska Moose, which was planned, has been deferred until specimens can be obtained, those intended for use having proved unsatisfactory. A case of small mammals prepared by Taxidermist Pray was placed on exhibition early in the year, being the first of its kind among the exhibits. It includes representatives of four species so arranged that each has its characteristic environment shown without any unnatural or artificial division of the case. In this group, although no painted background is employed, a fine effect is produced by the use of brightly coloured leaves and attractively arranged foliage in the centre of the case serving as a background for all four groups. The species shown are the White-footed Mouse, the Jumping Mouse, the Meadow Mouse, and the Short-tailed Shrew. The serial or systematic exhibition of birds has been largely reinstalled in new cases fitted with longitudinal central screens painted dull black and carrying plate-glass shelves on which the birds on conventional perches are arranged in linear series according to relationship. Some twenty birds were mounted and added to this exhibition collection during the past year and others are now in the hands of the taxidermists. Some eight hundred new

labels were provided for these birds and a large number of new labels was placed also in the serial exhibition of mammals. Considerable time was devoted to the work of reinstalling a portion of the bird collection. In spite of many interruptions the regular work of pinning and labelling entomological material was continued as usual, and 1,119 specimens were prepared. A number of days was given to showing specimens to scientific visitors and teachers with their classes. The services of the assistant, Mr. Wolcott, were largely utilized in drawing maps and other illustrations for use in the publication on Mammals of Illinois and Wisconsin (now in press). Aside from the work of pinning and installing insects, experimental work was undertaken in preserving or reproducing insect larvæ for proposed exhibition groups. The two forms to which the assistant gave the most attention were the *Cceropia* and the *Polyphemus* moths. The eggs, larvæ, and cocoons of these specimens collected during the fore part of the summer, and subsequently the various breeding stages, were utilized in order to illustrate the life history of these insects. After making a number of experiments on the immature stages of these species, it was found necessary to reproduce the larvæ in wax, using, however, also parts of the original specimen, such as the head, feet, spines, etc. For the branches which are to contain the larvæ there have been made over four hundred and fifty wax leaves. Although the wax is much in the nature of a new undertaking, and although some important problems have not yet been solved — the preservation of hairy caterpillars, for instance — still the results are so promising that it is hoped to continue the work. During the year the work in the Division of Osteology has progressed favourably, a great deal of time being devoted to cleaning skulls for the study and exhibition series. A valuable acquisition to the Museum was a fine skeleton of the extinct Great Auk, *Plautus impennis*, which was skilfully mounted for exhibition by Assistant Curator Gueret. The degreasing plant at Whiting, Indiana, still being at the disposal of the Museum, 33 skeletons and skulls of mammals, birds and fishes were degreased during the year, also a large mounted Tarpon.

PRINTING. — The number of labels and the impressions made by this section is as follows:

	Labels	Other Impressions.
Department of Anthropology	7,067	14,075
Department of Botany	271	19,893
Department of Geology	3,512	350
Department of Zoology	1,917	7,560
Director's Office		41,993

The chief work performed during the year was the printing of labels for the Department of Anthropology as the statement shows. There were also printed 250 copies of the regular Museum publication list (11 pages), 50 copies of the new by-laws of the Corporation and 250 copies of a special Museum publication list for distribution to the names on the exchange list.

PHOTOGRAPHY AND ILLUSTRATION.—This section has had an unusually active year. Following is a tabulated statement of the work performed:

	Negatives	Prints	Lantern Slides.	Enlargements.	Photomac- rography of Seeds, Skulls, etc.
Director's Office	69	247	..		
Department of Anthropology	571	2,474	336		
Department of Botany	84	723	38		
Department of Geology	18	13	44		
Department of Zoology	66	661	83	1	4
Distribution		170			
Gift		72	50		
Sale		22		50	
Totals	808	4,382	551	51	4

Negatives made in the field by members of the staff and developed by the Section of Photography:

Department of Anthropology	264
Department of Botany	131
Department of Zoology	240

Total	635

ATTENDANCE. — The attendance for the year shows a slight decrease compared with previous years. This may be explained by the unusual number of rainy Saturdays and Sundays—free days—during the year. The following is the list of school classes (twenty pupils or more) that visited the Museum during the year:

Schools and Location	Teachers	Pupils.
Oak Park — Oak Park, Illinois	1	29
Wendell Phillips High — Thirty-ninth Street and Prairie Avenue		48
Hamline — Forty-eighth and Bishop Streets	3	20
Hinsdale — Hinsdale, Illinois	1	20
St. Brendens — Sixty-seventh Street and Centre Avenue	2	72
Blue Island — Blue Island, Illinois	2	32
Wendell Phillips High — Thirty-ninth Street and Prairie Avenue		32
Hamline — Forty-eighth and Bishop Streets	1	24
Blue Island — Blue Island, Illinois	5	108
Hamline — Forty-eighth and Bishop Streets	2	55

Schools and Location.	Teachers.	Pupils.
Talcott — Ohio and Lincoln Streets	2	47
Ogden — Chestnut and State Streets	5	22
Newberry — Willow and Orchard Streets	1	23
Kenwood — Fiftieth Street and Lake Avenue	1	25
William Penn — Sixteenth Street and Avers Avenue	3	85
Bryant — Forty-first Court and Fourteenth Street		20
Chicago University — Chicago, Illinois		21
Chicago University — Chicago, Illinois		45
Chicago University — Chicago, Illinois		26
Chicago University — Chicago, Illinois	1	40
Moody Bible Institute — 80 Institute Place		25
Chicago University — Chicago, Illinois		25
Bohemian Summer — 5061 North Fortieth Avenue	2	24
McCormick Vacation — Twenty-seventh Street and Sawyer Avenue	30	489
St. Alberts — Chicago, Illinois	2	21
Chicago Academy of Fine Arts — Madison Street, near Michigan Avenue		73
Chicago University — Chicago, Illinois	1	68
Lake High — Forty-seventh Place and Union Avenue	1	20
Lake View High — Ashland Avenue and Irving Park Boulevard		30
Washington — Morgan Street and Grand Avenue	2	48
University Elementary — Fifty-ninth Street and Monroe Avenue	4	23
Lewis Champlin — Sixty-second Street and Princeton Avenue	2	36
John Marshall High — Adams Street and Spaulding Avenue	1	29
Chicago University — Chicago, Illinois	1	32
Hyde Park High — Fifty-seventh Street and Kimbark Avenue	1	21
Forest Park — Forest Park, Illinois	2	38
University Elementary — Fifty-ninth Street and Monroe Avenue	1	20
Chicago Latin — 1200 Michigan Avenue	3	24
Lewis Institute — West Madison and South Robey Streets	1	38
Wendell Phillips High — Thirty-ninth Street and Prairie Avenue		20
Chicago University — Chicago, Illinois	1	35
Chicago Evangelistic Institute — 1754 Washington Boulevard	1	35
Forest Park — Forest Park, Illinois	2	48
Andersen — West Division and Lincoln Streets	1	24
Art Institute — Michigan Avenue and Adams Street	1	49
Lutheran Teachers Seminary — Addison, Du Page County, Illinois	1	31
Sullivan — Eighty-third Street and Houston Avenue	1	29
Francis W. Parker — 330 Webster Avenue	4	26
Mayfair — Lawrence and North Forty-fourth Avenues	1	50
Curtis — One Hundred and Fifteenth and State Streets	1	27
Evanston — Evanston, Illinois	1	20
McCosh — Sixty-fifth Street and Champlain Avenue	1	30
Chicago University — Chicago, Illinois		30
Illinois University — Champaign, Illinois		35
University Elementary — Fifty-ninth Street and Monroe Avenue	1	24
St. James High — Twenty-ninth Street and Wabash Avenue		26
Chicago University — Chicago, Illinois		35
Sumner — South Forty-third and Colorado Avenues	2	36

Schools and Location.	Teachers	Pupils.
Thornton Township High — Harvey, Illinois	2	80
Chicago Academy of Fine Arts — Madison Street, near Michigan Avenue	1	42
St. Xavier's Academy — Forty-ninth Street and Evans Avenue	2	25
Chicago University — Chicago, Illinois	1	28
Chicago University — Chicago, Illinois	1	27
Chicago University — Chicago, Illinois		38
Highland Park — Highland Park, Illinois	4	30
Andersen — West Division and Lincoln Streets	1	30
Hyde Park High — Fifty-seventh Street and Kimbark Avenue	1	30
Geo. W. Curtis High — One Hundred and Fifteenth and State Streets	1	20
Van Vliessen — One Hundred and Eighth Place and Wentworth Avenue	2	36
Waller High — Orchard and Center Streets	4	90
Lewis Institute — West Madison and South Robey Streets	1	40
Wells — Ashland Avenue and Augusta Street	1	20
Oakland — Fortieth Street and Langley Avenue	1	23
Frances E. Willard — Forty-ninth Street and St. Lawrence Avenue	5	20
Blue Island — Blue Island, Illinois	1	25
Wendell Phillips High — Thirty-ninth Street and Prairie Avenue		52
Young Men's Christian Association — 19 South La Salle Street		45
Wendell Phillips High — Thirty-ninth Street and Prairie Avenue	1	35
Earle — Sixty-first Street and Hermitage Avenue	2	55
Blue Island — Blue Island, Illinois	2	34
Englewood High — Sixty-second Street and Stewart Avenue	1	140
University High — Fifty-ninth Street and Monroe Avenue	2	40
River Forest — River Forest, Illinois	1	39
Hyde Park High — Fifty-seventh Street and Kimbark Avenue	1	36
Hyde Park High — Fifty-seventh Street and Kimbark Avenue	1	35
Chicago University — Chicago, Illinois		55
John Marshall High — Adams Street and Spaulding Avenue	2	40
Hamline — Forty-eighth and Bishop Streets	1	38
Irving — Lexington and Leavitt Streets	2	20
Moody Bible Institute — 80 Institute Place		25
Nathaniel Hawthorne High — Oak Park, Illinois	1	40
Lyons Township High — Lyons, Illinois	1	20
Blue Island — Blue Island, Illinois	2	45
Wendell Phillips High — Thirty-ninth Street and Prairie Avenue		31
Chicago University — Chicago, Illinois		25
Armour — Evanston, Illinois	1	27

Herewith are also submitted financial statement, list of accessions, names of members, etc.

FREDERICK J. V. SKIFF,

Director.

FINANCIAL STATEMENT.

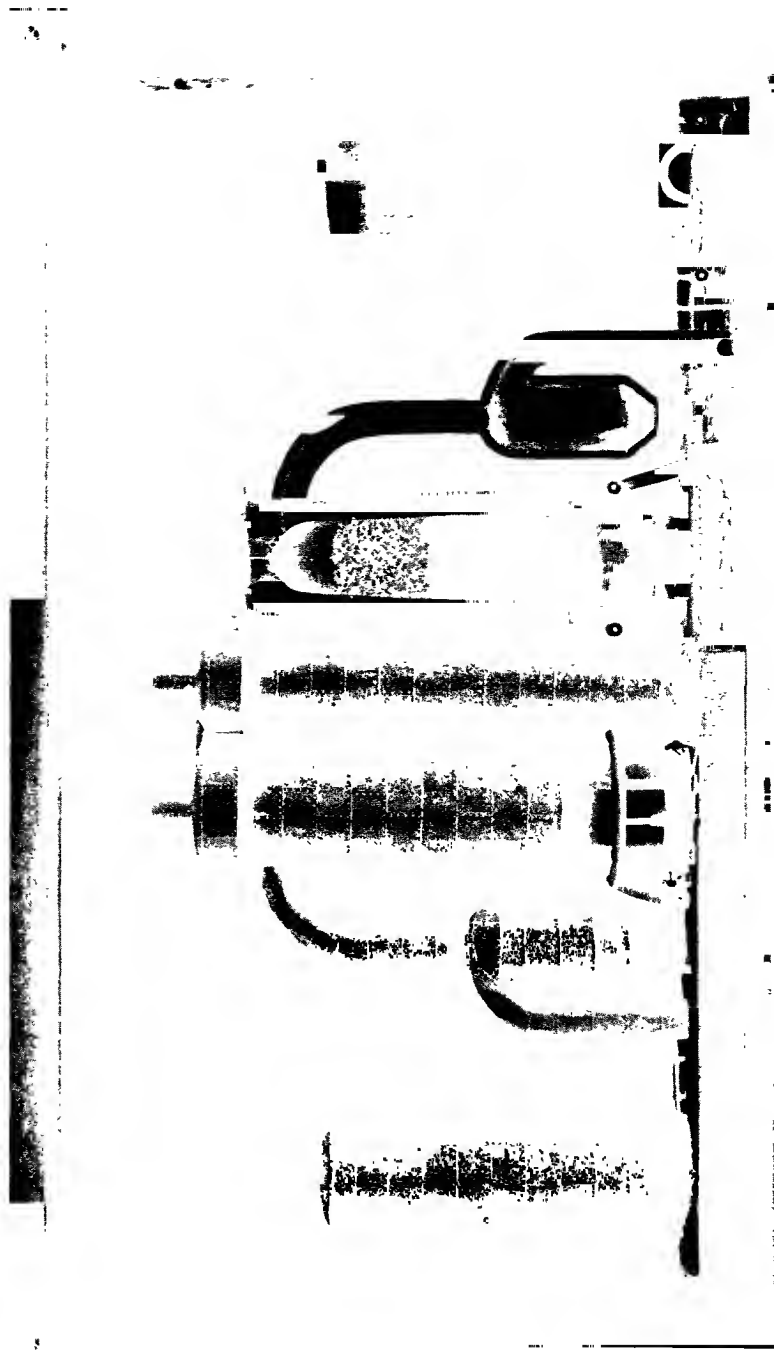
GENERAL ACCOUNT.

RECEIPTS AND DISBURSEMENTS.

January 1, 1911 to December 31, 1911.

RECEIPTS

Cash in Treasurer's hands, December 31, 1910	\$30,724 58
Petty Cash on hand, December 31, 1910	739 95
Dues of Annual Members	1,400 00
Life Members	3,000.00
Admissions and Check Rooms	6,043 85
Sale of Guides	275.25
South Park Commissioners	15,000 00
Interest on Investments	39,427 88
Field Endowment Income	137,000 00
Interest on Daily Balances	651.42
Sundry Receipts and Refunds	2,472 99
Sundry Sales	52 48
Joseph N. Field South Pacific Islands Fund	5,000 00
Joseph N. Field South Pacific Islands Fund Investment Income	80 56
Field-Sprague Ornithology Fund	1,600 00
Stanley McCormick Hopi Fund	3,500 00
Huntington W. Jackson Library Fund	40 00
Marshall Field Endowment Sinking Fund	500 00
New Building Moving and Furnishing Fund Income	3,639 03
Marshall Field Endowment Sinking Fund Income	84 44
	\$251,232 43



MODEL AND SECTION OF MODERN IRON BLAST FURNACE.

DISBURSEMENTS

Salaries		\$89,719 90
Guard Service		13,466.46
Janitor Service		8,042.44
Fire Protection		3,948 98
Heat and Light —		
Wages	\$ 4,012 10	
Fuel	6,628.70	
Supplies, Gas, etc.	1,236 48	11,877 28
Repairs and Alterations —		
Wages of Carpenters, Painters, Roofers, etc.	\$10,895 03	
Material used—paints, oils, glass, lumber, plaster, etc.	1,465.80	12,360 83
Furniture and Fixtures		11,425 75
The Library —		
Books and Periodicals	\$1,601 84	
Binding	671 65	
Sundries	66.67	2,340 16
Sections of Printing and Photography		1,174 91
Collections, etc., Purchased		3,614 81
Departmental Expenses		5,515 31
Expeditions		1,658 89
Publications		1,282 01
General Expense Account —		
Freight, Expressage and Teaming	\$4,235 81	
Stationery, Postage, Telephone, etc.	1,062 60	
Northern Trust Company, Custodian Fee	346 78	
Lecture Course Expenses	1,069 13	
Sundries	1,106 28	7,820.60
Field-Sprague Ornithology Fund		1,744 90
Standard Oil Fund		2,580 00
Joseph N. Field South Pacific Islands Fund		4,400 00
Stanley McCormick Hopi Fund		3,843 76
New Building Moving and Furnishing Fund		8,864.11
Mrs. T. B. Blackstone Fund		118.16
		\$195,799.26
In Treasurer's hands, December 31, 1911	\$30,218 78	
Petty Cash on hand December 31, 1911	739 95	
New Building Moving and Furnishing Fund Investment	13,500 00	
New Building Moving and Furnishing Fund Income		
Investment	4,990 00	
Joseph N. Field South Pacific Islands Fund Investment	5,000 00	
Marshall Field Endowment Sinking Fund Investment	980 00	
Byron L. Smith, Treasurer, Marshall Field Endowment		
Sinking Fund	4 44	55,433 17
		\$251,232 43

ATTENDANCE AND RECEIPTS FROM JANUARY 1 TO DECEMBER 31, 1911.

ATTENDANCE.			
Paid Attendance —			
Adults	20,967		
Children	2,150	23,117	
Free Admission on Pay Days —			
School Children	3,809		
Students	3,773		
Teachers	565		
Members: Corporate	75		
Annual	71		
Life	1		
Officers' Families	131		
Special	79		
Press	14	8,518	
Admissions on Free Days—			
Saturdays	40,053		
Sundays	128,797	168,850	
Total Attendance		200,485	
Highest Attendance on any one day (September 3, 1911)		6,308	
Highest Paid Attendance on any one day (September 4, 1911)		640	
Average Daily Admissions (365 days)		549	
Average Paid Admissions (260 days)		88	

RECEIPTS.	
Guides sold — 1,101 at 25 cents each	\$ 275.25
Articles checked — 11,742 at 5 cents each	587.10
Admissions	5,456.75
	<hr/>
	\$6,319.10

ACCESSIONS.

DEPARTMENT OF ANTHROPOLOGY.

(ACCESSIONS ARE BY GIFT UNLESS OTHERWISE DESIGNATED.)

- ALABAMA ANTHROPOLOGICAL SOCIETY, Montgomery, Alabama.
32 flaked projectile points — Alabama.
- AYER, E. E., Chicago.
4 beads of red agate with double perforations — Egypt.
Life size stone statue of the Goddess Sekmet — Egypt.
10 apple wood stamps — Algeria.
- AYER, E. E., BLAIR, WATSON F., PORTER, GEO. F., FIELD, STANLEY,
JONES, A. B., and MANIERRE, GEORGE, Chicago.
54 pieces of jewelry — Algeria.
12 blue porcelain button-like discs — Egypt.
- BLACKSTONE, MRS. T. B., Chicago.
Armor and clothing — China (Collected by Berthold Laufer).
- CUMMINGS, R. F., Chicago. Philippine Islands Expedition.
Ethnological material from Gulf of Davao (Collected by F. C. Cole).
- FIELD, JOSEPH N., Manchester, England. South Pacific Islands Fund.
General ethnological collection — German New Guinea (Collected by A. B. Lewis).
- FIELD MUSEUM OF NATURAL HISTORY.
Purchases:
Half of woman's dress — Navaho.
Jicarilla Apache basket bowl — New Mexico.
Blanket stripe of buffalo calfskin and 80 drawings — Oklahoma.
Stone sarcophagus — Egypt.
- GUNSAULUS, DR. F. W., Chicago.
Painting of war scene — China.
- KAMMERER, FRANK G., Chicago.
Silk embroidered screen in carved wooden frame — China.
- MCCORMICK, STANLEY. Hopi Indian Fund.
Ethnological collection — Arizona (Collected by C. L. Owen).
- MURPHY, ANNA M., Chicago.
8 knives and 1 spear — Philippine Islands.
- PATTEN, H. J., Chicago.
Skull of European excavated at Sandwich, Illinois (Collected by F. C. Cole).
- PAHNKE, R. J., Fort Bayard, New Mexico.
1 pair lady's shoes — China.
11 finger rings made and worn by the Moro of Mindanao, Philippine Islands.

SHAW, T. A., Chicago.

Collection of footwear.

Pali book, leaves of palm leaf.

UNIVERSITY OF MELBOURNE, Australia.

Ethnological objects — Australia (exchange).

DEPARTMENT OF BOTANY.

(ACCESSIONS ARE BY GIFT UNLESS OTHERWISE DESIGNATED.)

AIKEN, WALTER H., Cincinnati, Ohio.

1 herbarium specimen — New Mexico.

AMERICAN MUSEUM OF NATURAL HISTORY, New York.

6 herbarium specimens.

ARMSTRONG CORK COMPANY, Pittsburgh, Pennsylvania.

20 specimens cork products.

AUSTILL, MRS. H., Spring Hill, Alabama.

1 specimen "Aurora" pecan — Alabama.

AYER, MRS. EDWARD E., Fontana, Wisconsin.

1 *Urticastrum divaricatum* (L.) Ktze. — Wisconsin.

BACON, G. M., PECAN COMPANY, De Witt, Georgia.

1 specimen "Georgia" pecan — Georgia.

BEARDSLEY, WALTER H., Chicago.

1 illustration of *Narcissus ornatus*.

BECHTEL, THEODORE, Ocean Springs, Mississippi.

1 specimen "Success" pecan — Mississippi.

BERNICE PAUHI BISHOP MUSEUM, Honolulu, Hawaiian Islands.

1 *Cibotium Menziesii* Hooker — Hawaiian Islands.

BOOY, REAR ADMIRAL C. J. G. DE, Utrecht, Netherlands.

29 dried plants — Nova Zembla.

BOTANIC GARDENS, Sydney, Australia.

101 herbarium specimens — Australia (exchange).

100 herbarium specimens — Australia (exchange).

BRANDEGEE, T. S., Berkeley, California.

1 herbarium specimen — Mexico.

BRIDGE, VERN. A., Peru, Indiana.

1 wood specimen — Mexico.

BUREAU OF PLANT INDUSTRY, Washington, D. C.

50 herbarium specimens — Russia and Turkestan (Asia) (exchange).

BURNS, T. RODNEY, Eureka, California.

2 specimens *Sequoia sempervirens* Endl. — Eureka, California.

CALDWELL, OTIS W., Chicago.

1 specimen *Hibiscus Trionum* L. — Indiana.

CARR, W. P., Washington, D. C.

2 specimens *Euphorbia* — South Dakota.

CHAMBERLAIN, C. J., Chicago.

1 microscopic preparation of *Araucaria* wood.

COULTER, J. M., Chicago.

29 herbarium specimens — Nevada.

1 herbarium specimen — Texas.

1 herbarium specimen — Michigan.

- 1 herbarium specimen — Mexico.
- 2 herbarium specimens — Lake Geneva, Wisconsin.
- CRERAR, JOHN, LIBRARY, Chicago.
- 12 herbarium specimens — Bavaria.
- CROSBY, MISS GRACE, Chicago.
- 1 herbarium specimen — Illinois.
- CURTIS, J. B., Orange Heights, Florida.
- 2 specimens "Curtis" and "Kennedy" pecans — Florida.
- DEAM, C. C., Indianapolis, Indiana.
- 112 herbarium specimens — Guatemala (exchange).
- 9 herbarium specimens — Indiana.
- DELLIS, GEORGE, Grand Turk Island, British West Indies.
- 7 herbarium specimens — Caicos Islands, Bahama's.
- DEPARTAMENTO DE EXPLORACION, Tacubaya, Mexico.
- 279 herbarium specimens — Mexico.
- DIBBLE, MRS. F. W., Glen Ellyn, Illinois.
- 9 herbarium specimens — Illinois.
- EBERHART, MRS. E. H., Ocean Park, California.
- 1 herbarium specimen — California.
- FIELD MUSEUM OF NATURAL HISTORY.
- Collated by J. M. Greenman:
- 10 descriptions and illustrations.
- 4 herbarium specimens — Canada.
- Collated by C. F. Millspaugh.
- 1 herbarium specimen — Mexico.
- 48 herbarium specimens — America.
- 1 herbarium specimen — Chihuahua, Mexico.
- 1 herbarium specimen — Fortune Island, Bahamas.
- Collected by O. E. Lansing, Jr.:
- 307 herbarium specimens — Ozark Mountains, Missouri.
- 49 herbarium specimens — Michigan.
- 21 herbarium specimens — New Buffalo, Michigan.
- 35 herbarium specimens — New Buffalo, Michigan.
- 43 herbarium specimens — South Haven, Michigan.
- 21 herbarium specimens — Mineral Springs, Indiana.
- 8 herbarium specimens — Flossmoor, Illinois.
- 14 herbarium specimens — Mineral Springs, Indiana.
- Collected by C. F. Millspaugh.
- 432 herbarium specimens, economic specimens, dry fruits and fruits in formahn — Turks and Caicos Islands, Bahamas.
- Collected by Huron H. Smith:
- 28 herbarium specimens, hand specimens, dry fruits and winter twigs — Oregon.
- 49 specimens *Sequoia sempervirens* Endl. — Eureka, California.
- 15 specimens paper products, pulp and cedar block — Oregon.
- 72 economic specimens — Oregon.
- 1 herbarium specimen — Oregon.
- 48 economic specimens — Oregon.
- 1 *Gaultheria Shallon* Pursh — Arcata, California.
- 1 *Salix sitchensis* Sans — Granite Falls, Washington.

Purchases:

- 181 herbarium specimens — United States.
- 59 herbarium specimens — Mexico.
- 493 herbarium specimens — Mexico and Arizona.
- 110 herbarium specimens — Oregon.
- 1261 herbarium specimens — Philippine Islands.
- 111 herbarium specimens — Philippine Islands.
- 1 economic specimen — Philippine Islands.
- 455 herbarium specimens — Illinois and Wisconsin.
- 88 herbarium specimens — Illinois, Maine, Michigan, Mississippi and Wisconsin.
- 396 herbarium specimens — Canada.
- 346 herbarium specimens — Canada.
- 525 herbarium specimens — Illinois and Indiana.
- 90 herbarium specimens — Florida, Alabama and Georgia.
- 304 herbarium specimens — Nevada, Oregon, Washington, California and Idaho.
- 101 herbarium specimens — Nevada, Tennessee and Texas.
- 125 herbarium specimens — Idaho.
- 48 herbarium specimens — Idaho.
- 136 herbarium specimens — Texas.
- 420 hand specimens of Philippine woods — Philippine Islands.
- 103 herbarium specimens — Bolivia.

Modeled by B. E. Dahlgren:

- 1 branch of Sour Sop.— Jamaica.
- 1 flower of Sour Sop.— Jamaica.
- 1 fruit of Ilang-ilang — Jamaica.
- 1 *Aloe vera*, complete plant in flower—Jamaica.
- 5 flowers *Arisæma triphyllum* — Illinois.
- 1 *Citrus decumana*, branch, fruit and flowers — Jamaica.
- 2 models of *Guaiacum officinale*, enlarged flower and branch — Jamaica.
- 1 branch of *Blighia sapida*.
- 1 *Citrus japonica*, fruit.
- 3 models of pomegranate, flower and fruit.
- 1 *Anthurium*.
- 1 *Carica Papaya* — Jamaica.
- 1 *Pisum sativum*, flowers.
- 1 *Citrus Limonum*, fruit.
- 1 *Tamarindus indica*, branch.
- 3 models *Rhizophora Mangle*, tree, leafing fruit, and fruits—Florida and Jamaica.

FRANCIS, G. H., Morgan Park, Illinois.

- 1 "Giant Puff Ball"— Morgan Park, Illinois.

FULLER, GEORGE D., Chicago.

- 27 herbarium specimens — Saskatchewan.

GRAY HERBARIUM, Cambridge, Massachusetts.

- 2 herbarium specimens — Mexico (exchange).
- 92 herbarium specimens — Australia (exchange).

GREEN, MISS MARY POMEROY, Chicago.

- 1 economic specimen—Wisconsin.

- GREENMAN, J. M., Chicago.
3 herbarium specimens — Illinois and Indiana.
1 plant description.
- GRIFFING BROTHERS, Macclenny, Florida.
1 specimen "President" pecan — Florida.
- GUERET, EDWARD N., Chicago.
2 fungi — Chicago.
- GUPPY, HENRY BROUGHAM, Salcombe, England.
18 dry fruits — Grand Turk Island, Bahamas.
- HAYDON, WALTON, Marshfield, Oregon.
139 herbarium specimens — Oregon.
- HERBARIUM KRUG AND URBAN, Dahlem, Germany.
6 herbarium specimens (exchange).
- HERRICK, C. JUDSON, Chicago.
208 herbarium specimens — New Mexico.
- HILL, E. J., Chicago.
85 herbarium specimens—United States.
- JOHNSON, FRANK D., Pelican Lake, Wisconsin.
1 herbarium specimen — Wisconsin.
- HELLER, A. A., Reno, Nevada.
2 specimens of *Senecio* — Oregon and Idaho.
- LANSING, O. E., JR., Chicago.
16 herbarium specimens — Indiana and Wisconsin.
15 herbarium specimens — Illinois.
2 fungi — Illinois.
- LAUFER, BERTHOLD, Chicago.
15 herbarium specimens — China and Tibet.
1 economic specimen.
- LAURIDSEN, ARNOLD, Chicago.
1 fungus — Ashland County, Wisconsin.
- LOCKE, OTTO, New Braunfels, Texas.
1 specimen "Daisy" pecan — Texas.
- LUNELL, J., Leeds, N. Dakota.
1 herbarium specimen — North Dakota.
- MACDOUGAL, D. T., Tucson, Arizona.
3 cross sections of Giant Cactus — Arizona.
- MACKENSEN, BERNARD, San Antonio, Texas.
3 herbarium specimens — Texas.
- MACOUN, J. M., Ottawa, Canada.
4 herbarium specimens of *Senecio* — Keewatin, Canada.
- MARRIOTT, BRUCE, London, England.
10 specimens of Venezuelan woods — Venezuela.
- MEYERS, IRA BENTON, Chicago.
15 herbarium specimens — Illinois and Indiana.
- MILLSPAUGH, MRS. C. F., Chicago.
1 piece fine banana cloth — Philippine Islands.
- MILLSPAUGH, C. F., Chicago.
1 edible nut of *Canarium album* Racusch. — New York market, from
Philippine Islands.
1 nectarine pit — Chicago.

NEWCOMBE, C. F., Victoria, B. C.

98 herbarium specimens — British Columbia.

NEW YORK BOTANICAL GARDEN, New York.

698 herbarium specimens — Montserrat Island, West Indies (exchange).

3 herbarium specimens — Bahamas (exchange).

786 herbarium specimens — Cuba and Jamaica (exchange).

5 herbarium specimens — Ex. Hort., Jamaica (exchange).

160 herbarium specimens — Cuba and Jamaica (exchange).

NORTH BEND MANUFACTURING COMPANY, North Bend, Oregon.

1 myrtle-wood bowl — Oregon.

OREGON WOOD DISTILLING COMPANY, Portland, Oregon.

13 wood distillation products — Oregon.

PHARR, G. M., & SONS, Olivier, Louisiana.

1 specimen "Frotscher" pecan — Louisiana.

REYNOLDS, MISS CARRIE, Chicago.

50 herbarium specimens — Yellowstone Park, Wyoming and Illinois.

ROE, MISS MABEL L., Chicago.

1 herbarium specimen — Indiana.

ROPER, WILLIAM N., Petersburg, Virginia.

1 specimen "Mantura" pecan — Virginia.

SCHWARTZ, JOSEPH E., Chicago.

1 specimen of starch of *Zamia Allison-Armourii* Millsp. — San Domingo.

SCOTT, WILLIAM, Toronto, Canada.

3 herbarium specimens — Ontario.

SHERFF, E. E., Chicago.

1 herbarium specimen — Michigan.

27 herbarium specimens — Middle West.

47 herbarium specimens — Arizona, Illinois, Michigan and Missouri.

50 herbarium specimens — Illinois, Indiana and Michigan.

418 herbarium specimens — Illinois, Michigan, and Missouri.

520 herbarium specimens — Arizona, Illinois, Michigan, Missouri, and New Jersey.

SIMPSON, J. H., Bradentown, Florida.

2 herbarium specimens — Florida.

SMITH, C. A., LUMBER COMPANY, Marshfield, Oregon.

1 wheel specimen — Oregon.

SMITH, CHARLES PIPER, Logan, Utah.

9 herbarium specimens — Utah and Idaho.

SMITH, JOHN DONNELL, Baltimore, Maryland.

1 herbarium specimen — Costa Rica.

SMITH, PERCIVAL B., Mobile, Alabama.

3 specimens pecans — Texas, Mississippi and Alabama.

SMITH, WILBUR, Chicago.

76 herbarium specimens — Michigan.

SOUTH ORCHARDS COMPANY, South Orchards, Alabama.

1 specimen "Teche" pecan — Alabama.

'S RIJKS HERBARIUM, Leiden, Holland.

70 herbarium specimens (exchange).

STEARNS, ELMER, Ciudad Juarez, Chihuahua, Mexico.

81 herbarium specimens — Mexico.

1 herbarium specimen — Mexico.

- STONE, FRANK B., Chicago.
4 tree specimens — Japan.
- TAYLOR, MISS LULU, Handsboro, Mississippi.
1 specimen "Taylor" pecan — Mississippi.
- TIETGEN, HENRY, Chicago.
1 specimen of wood, showing disarticulate branching — Brazil.
- UNITED STATES NATIONAL HERBARIUM, Washington, D. C.
18 herbarium specimens, United States (exchange).
118 herbarium specimens, United States (exchange).
- VOTH, H. R., Chicago.
10 herbarium specimens — Arizona.
- WILSON, W. B., Ottawa, Kansas.
1 herbarium specimen — Kansas.
- WOLCOTT, ALBERT B., Chicago.
63 herbarium specimens — Illinois and Indiana.
1 herbarium specimen — Osborn, Indiana.
- ZINK J. W., Orange Grove, Mississippi.
1 specimen "Big Z" pecan — Mississippi.

DEPARTMENT OF GEOLOGY.

(ACCESSIONS ARE BY GIFT UNLESS OTHERWISE DESIGNATED.)

- AYER, E. E., Chicago.
300 specimens silicified wood — Arizona.
150 specimens amethyst and quartz crystals on silicified wood — Arizona.
1 tooth of mammoth — Arizona.
2 specimens fossils — Arizona.
1 specimen veins — Arizona.
- BLAKE, W. P., Tucson, Arizona.
2 sections (1100 grams) Noon meteorite — Noon, Sonora, Mexico.
- BOHM, JULIUS, Vienna, Austria.
116 grams Vigarano meteorite (exchange).
68 grams Cowra meteorite (exchange).
- FIELD MUSEUM OF NATURAL HISTORY.
Collected by O. C. Farrington:
2 specimens basalt — Stoneham, Maine.
1 specimen syenite — Stoneham, Maine.
- Collected by H. W. Nichols:
1 specimen iron ore — Parry Sound, Ontario.
- Collected by W. H. Osgood.
1 specimen copper ore — Venezuela.
- Collected by A. W. Slocum:
104 specimens invertebrate fossils — Chanahon, Illinois.
134 specimens invertebrate fossils — Little Traverse Bay, Michigan.
97 specimens fossil corals and brachiopods — Falls of the Ohio.
49 specimens invertebrate fossils — Thornton, Illinois.
- Purchases:
1 slab of crinoids
3 specimens vivianite — Leadville, Colorado.

- 22 specimens minerals — Coeur d'Alene District, Idaho.
- 1 specimen fossil coral (Silurian) — Sturgeon Bay, Wisconsin.
- MILLSPAUGH, C. F., Chicago.
 - 41 specimens salt crystals — Turks Island.
- HAFFLER, J. C., Chicago.
 - 2 specimens petroleum — Wyoming.
 - 1 specimen asphaltic sand — Wyoming.
- HAYDON, WALTON, Marshfield, Oregon.
 - 141 specimens fossils — Coos Bay, Oregon.
 - 8 specimens concretions — Coos Bay, Oregon.
- KENKEL, L. V., Seward, Alaska.
 - 3 specimens minerals — Peru.
- LORENZ, F. A., Chicago.
 - 4 specimens coal — Ludlow, Colorado.
- OSGOOD, W. H., Chicago.
 - 2 fossil pelecypods — Queen Charlotte Islands, B. C.
- VANDEBURGH, CLYDE L., Cristobal, Canal Zone, Panama.
 - Carapace and plastron of fossil turtle, *Cirrosternum leucastorium* — Mindi, Panama.

DEPARTMENT OF ZOÖLOGY.

(ACCESSIONS ARE BY GIFT UNLESS OTHERWISE DESIGNATED.)

- BRANDLER, C., Chicago.
 - 1 Yellow Rail — Hyde Lake, Illinois.
 - 2 Phalaropes — Hyde Lake, Illinois.
- BOWER, H. M., Chicago.
 - 1 Fly — Palos Park, Illinois.
 - 2 Beetles — Palos Park, Illinois.
 - 5 Bugs — Palos Park, Illinois.
 - 6 Bees and Parasites — Palos Park, Illinois.
 - 1 Beetle — Palos Park, Illinois.
- BROADWAY, W. E., Tobago, West Indies.
 - 2 Cicadas — Tobago, West Indies.
- CHICAGO GOLF CLUB, Wheaton, Illinois.
 - 2 Whooping Cranes.
- CRANEY, MISS MARY E., Chicago.
 - 1 Mounted Barred Owl — Cary, Illinois.
- DEUBLER, L., Chicago.
 - 3 Roaches — Northern Illinois.
 - 2 Beetles — Ohio.
- DOHMEN, U. A., Chicago.
 - 1 Fly — Chicago.
- FIELD MUSEUM OF NATURAL HISTORY.
 - Collected by F. C. Cole.
 - 2 Horn-bills — Philippine Islands.
 - Collected by E. N. Guercet:
 - 1 Robin — Cook County, Illinois.
 - 1 Owl — Cook County, Illinois.
 - 1 Pied-billed Grebe — Cook County, Illinois.
 - 1 Mole — Cook County, Illinois.

Collected by W. J. Gerhard:

- 541 Spiders, Dragon-flies, Bugs, Grasshoppers, Katydid, Sialids,
Butterflies, Moths, Flies, Beetles, Bees, Wasps, Parasites, etc. —
Northern Illinois and Northern Indiana.
- 7 Beetles — Reading, Pennsylvania.

Collected by O. E. Lansing:

- 1 Butterfly — Cedar Gap, Missouri.
- 3 Beetles — Cedar Gap, Missouri.
- 1 Bug — Mansfield, Missouri.
- 1 Grasshopper — Mansfield, Missouri.
- 2 Beetles — Mansfield, Missouri.
- 4 Butterflies — Mansfield, Missouri.
- 1 Fly — New Buffalo, Michigan.
- 1 Wasp — New Buffalo, Michigan.
- 2 Grasshoppers — New Buffalo, Michigan.
- 3 Beetles — New Buffalo, Michigan.
- 1 Beetle — Chicago.

Collected by S. E. Meek:

- 7 Water-beetles — Near Panama City, Panama.

Collected by S. E. Meek and S. F. Hildebrand:

- 300 Fishes — Panama.

Collected by C. F. Millsbaugh:

- 1 Moth — Yokohama, Japan.

Collected by W. H. Osgood and S. G. Jewett:

- 29 Mammal skins — Maracaibo, Venezuela.
- 122 bird skins — Maracaibo, Venezuela.
- 6 Capybaras skins and skulls — Venezuela.
- 2 Deer skins and skulls — Venezuela.
- 1 Aguti skin and skull — Venezuela.
- 1 Opossum skin only — Venezuela.
- 1 Skunk skin only — Venezuela.
- 1 Skull of Anteater — Venezuela.
- 240 specimens mammals — Venezuela and Colombia.
- 2 long-beaked Dolphins — Venezuela.
- 30 Fishes — Lake Maracaibo, Venezuela.
- 10 Reptiles — Lake Maracaibo, Venezuela.
- 2 Crustaceans — Lake Maracaibo, Venezuela.
- 7 Skeletons of small rodent — Colombia.
- 1 Shrew — Colombia.
- 2 Fleas — Venezuela and Colombia.
- 26 bird lice — Venezuela and Colombia.
- 462 bird skins — Venezuela and Colombia.
- 7 birds' eggs — Venezuela and Colombia.

Collected by L. L. Pray and C. Brandler:

- 1 Wolf skeleton — Champion, Michigan.
- 1 Beaver skeleton — Champion, Michigan.
- 6 Beaver — White-deer Lake, Michigan.
- 1 Gray Wolf — White-deer Lake, Michigan.

Collected by H. T. Raven:

- 5 mammal skins — Catatumbo, Venezuela.
- 179 bird skins — Catatumbo, Venezuela.

Collected by A. B. Wolcott:

- 2 Salamander — Willow Springs, Illinois.
- 1 Spider — Chicago.
- 1 Bug — Chicago.
- 28 Beetles — Chicago.
- 362 Dragon-flies, Scorpion-flies, Bugs, Earwigs, Grasshoppers, Katydid's,
Moths, Flies, Beetles, Bees, Wasps, Parasites, etc. — Northern
Illinois and Northern Indiana.

Purchases:

- 1 Mounted Fox — Petersburg, Menard County, Illinois.
- 17 Mammal skins — British Guiana.
- 18 Mammals — China.
- 47 Mammals — South America.
- 1 Elaphine Deer — China.
- 16 Rodents — China.
- 2 Wild Turkeys — Virginia.
- 532 birds' eggs — North America.
- 1 Passenger Pigeon.
- 1 Whooping Crane.
- 1 Loon.
- 1 Wood Duck.
- 2 Canada Geese.
- 4 Hooded Mergansers.
- 2 Wood Ducks.

FRIESSER, J., Chicago.

- 2 shells — Liverpool, Indiana.
- 1 Thread-worm — Holland, Michigan.
- 4 Beetles — Holland, Michigan.

HELWIG, OTTO, Highland Park, Illinois.

- 1 Crow — Highland Park, Illinois.

HENN, ARTHUR W., Bloomington, Indiana.

- 1 Jumping Mouse — Winona Lake, Indiana.

HINCKLEY, DR. D. H., Chicago.

- 2 Ticks — Santiago, California.

LAUFER, BERTHOLD, Chicago.

- 1 Cockroach — Asia.

LAWSON, D. S., Chicago.

- 2 Fiber zibethicus — Jackson Park, Illinois.

LEIGHTON, JAMES, Cody, Nebraska.

- 1 Spotted Lizard — Cody, Nebraska.

LINCOLN PARK ZOO, Chicago.

- 1 Drill.
- 1 Mandrill.
- 1 Baboon.

LODING, H. P., Mobile, Alabama.

- 1 Ant-lion nymph — Mobile, Alabama.

MUNZNER, H., Chicago.

- 7 Beetles — Northern Illinois.
- 2 Spiders — Northern Illinois.
- 2 Parasites — Northern Illinois.
- 8 Beetles — Northern Illinois.



THE MANGROVE (*Rhizophora Mangle*).

An important strand-plant of tropical regions.

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4 large shells.
- NICHOLS, H. W., Chicago.
3 Moths — Poreupine, Ontario, Canada.
- OSGOOD, W. H., Chicago.
1 Richardson's Shrew — Wisconsin.
- ROMANO, J., Chicago.
1 Sphinx Moth — Chicago.
- SNYDACKER, MISS CLARICE, Kenilworth, Illinois.
1 Katydid — Wilmette, Illinois.
- ROOD, W. H., Chicago.
2 Wild Turkeys (mounted) — Indian Territory.
- THILL, HENRY, Du Quoin, Illinois.
1 Beetle — Du Quoin, Illinois.
3 Bugs — Du Quoin, Illinois.
- TITUS, E. G., Logan, Utah.
2 Beetles — Gateway and Taylorsville, Utah.
- WALTERS, L. L., Chicago.
1 Alice's Thrush — Chicago.
- WOLCOTT, A. B., Chicago.
1 Silver haired bat — Palos Park, Illinois.
1 Woodchuck — Mineral Springs, Indiana.
- WILLARD, F. C., Tombstone, Arizona.
2 Snakes — Tombstone, Arizona.
3 Lizards — Tombstone, Arizona.
2 Centipedes — Arizona.
4 Whip-tailed Scorpions — Arizona.

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72 negatives, landscapes, general views, etc.

Made by C. L. Owen:

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Made by H. H. Smith:

358 negatives, portraits of trees, general views, landscapes, etc.

Purchases:

11 lantern slides — Panama, Canal Zone.

LAUFER, BERTHOLD, Chicago.

11 negatives, photographs of ancient Chinese grave sculpture stones.

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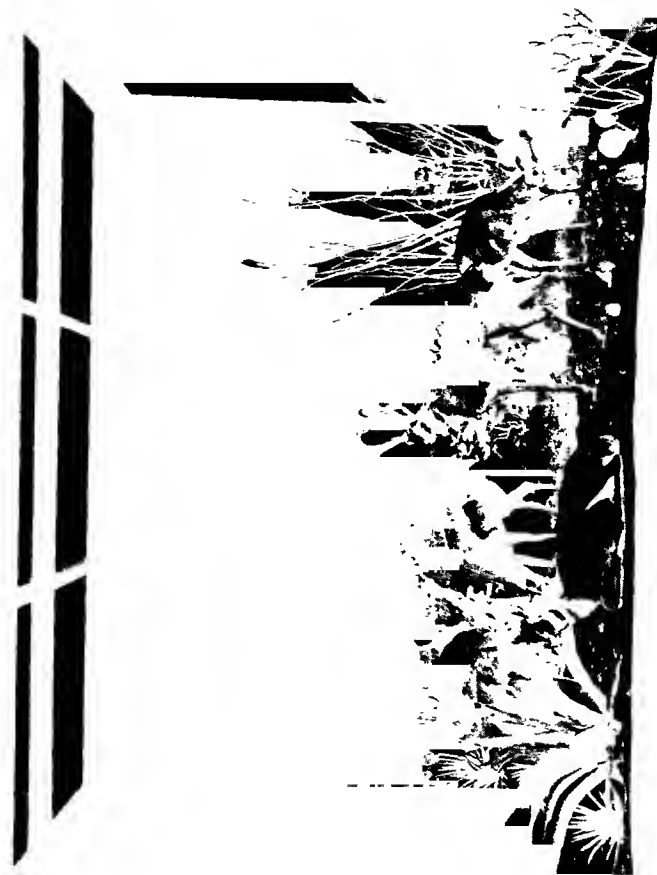
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SAN SALVADOR MUSEO NACIONAL, San Salvador	3
SANTIAGO DE CHILE. BIBLIOTECA NACIONAL, Santiago, Chile	53
SÃO PAULO. INSTITUTO AGRONÓMICO, São Paulo, Brazil	1
SÃO PAULO. SOCIEDADE CIENTÍFICA, São Paulo, Brazil	2
SA NE ET LOIRE. SOCIÉTÉ DES SCIENCES NATURELLES, Châlon-sur-Saône, France	1
SARAWAK MUSEUM, Borneo, India	2
SATURDAY REVIEW, London, England	2
SCHERMAN, LUCIAN, München, Germany	4
SCHLAGINHAUFEN, OTTO, Dresden, Germany	1
SCHLESISCHE GESELLSCHAFT FÜR VATERLANDISCHE CULTUR, Breslau, Prussia	1
SCHMIDT, P. W., Modling, Austria	2
SCHWEIZERISCHE ENTOMOLOGISCHE GESELLSCHAFT, Bern, Switzerland	1
SCHWEIZERISCHE NATURFORSCHENDE GESELLSCHAFT, Lausanne, Switzerland	1



GROUP OF AMERICAN ANTELOPE OR PRONG-HORN.

SCOTLAND FISHERIES BOARD, Glasgow, Scotland	1
SCOTT FORESMAN AND COMPANY, Chicago (gift)	5
SELL, HENRY, Copenhagen, Denmark	2
SENCKENBERGISCHE NATURFORSCHENDE GESELLSCHAFT, Frankfurt-am-Main, Germany	1
SERGI, GIUSEPPE, Rome, Italy	2
SHUFELDT, R. W., Washington, D. C.	1
SMITH, J. D., Baltimore, Maryland	1
SMITH, WILBUR M., Chicago (gift)	1
SOCIEDAD CIENTIFICA "ANTONIO ALZATE," Mexico, Mexico	2
SOCIETÀ GEOGRAFICA ITALIANA, Rome, Italy	2
SOCIETÀ GEOLOGICA ITALIANA, Rome, Italy	1
SOCIETÀ ITALIANA DI ANTROPOLOGIA, Florence, Italy	1
SOCIETÀ ROMANA DI ANTROPOLOGIA, Rome, Italy	1
SOCIETÀ TOSCANA DI SCIENZE NATURALI, Pisa, Italy	2
SOCIÉTÉ BELGE DE GÉOLOGIE, DE PALÉONTOLOGIE ET D'HYDROLOGIE, Brussels, Belgium	1
SOCIÉTÉ BOTANIQUE DE COPENHAGEN, Copenhagen, Denmark	1
SOCIÉTÉ BOTANIQUE DE FRANCE, Paris, France	1
SOCIÉTÉ DENDROLOGIQUE DE FRANCE, Paris, France	3
SOCIÉTÉ D'ÉTUDES DES SCIENCES NATURELLES, Rheims, France	1
SOCIÉTÉ D'HORTICULTURE ET DE BOTANIQUE, Marseilles, France	1
SOCIÉTÉ DE GÉOGRAPHIE, Toulouse, France	1
SOCIÉTÉ DES AMIS DE L'UNIVERSITÉ, Clermont, France	1
SOCIÉTÉ DES SCIENCES, Nancy, France	1
SOCIÉTÉ FRIBOURGEOISE DES SCIENCES NATURELLES, Fribourg, Switzerland	8
SOCIÉTÉ GÉOLOGIQUE DU NORD, Lille, France	1
SOCIÉTÉ NATIONALE D'HORTICULTURE DE FRANCE, Paris, France	1
SOCIÉTÉ NEUCHÂTELOISE DE GÉOGRAPHIE, Neuchâtel, Switzerland	2
SOCIÉTÉ OURALIENNE D'AMATEURS DES SCIENCES NATURELLES, Ekaterinburg, Russia	1
SOCIÉTÉ PORTUGAISE DE SCIENCES NATURELLES, Lisbon, Portugal	1
SOCIÉTÉ ROYALE DE BOTANIQUE DE BELGIQUE, Brussels, Belgium	1
SOCIÉTÉ ZOOLOGIQUE DE FRANCE, Paris, France	1
SOUTH AFRICA GEOLOGICAL SOCIETY, Johannesburg, South Africa	2
SOUTH AFRICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, Cape Town, South Africa	3
SOUTH AFRICAN DEPARTMENT OF AGRICULTURE, Cape Town, South Africa	2
SOUTH AFRICAN MUSEUM, Cape Town, South Africa	6
SOUTH AFRICAN ROYAL SOCIETY, Cape Town, South Africa	2
SOUTH AUSTRALIA. DEPARTMENT OF AGRICULTURE, Adelaide, South Australia	2
SOUTH AUSTRALIA. GOVERNMENT GEOLOGIST, Adelaide, South Australia	1

SOUTH AUSTRALIA. PUBLIC LIBRARY, MUSEUM AND ART GALLERY, Adelaide, South Australia	1
SOUTH AUSTRALIA. ROYAL SOCIETY, Adelaide, South Australia	1
SOUTH CAROLINA AGRICULTURAL EXPERIMENT STATION, Clemson, South Carolina	6
SOUTH DAKOTA AGRICULTURAL EXPERIMENT STATION, Brookings, South Dakota	9
SOUTH DAKOTA GEOLOGICAL SURVEY, Vermilion, South Dakota	1
SOUTH KENSINGTON BOARD OF EDUCATION, London, England	2
SOUTH LONDON ENTOMOLOGICAL AND NATURAL HISTORY SOCIETY, London, England	1
SOUTHERN CALIFORNIA ACADEMY OF SCIENCES, Los Angeles, California	1
SOUTHERN PACIFIC RAILROAD, San Francisco, California	2
SPEZIA. GIORGIO, Torino, Italy	2
SPRINGFIELD MUSEUM OF NATURAL HISTORY, Springfield, Massachusetts	2
STARR, FREDERICK, Chicago	1
STATEN ISLAND ASSOCIATION OF ARTS AND SCIENCES, New York City	1
STECHELT AND COMPANY, New York City (gift)	1
STEVENS INSTITUTE OF TECHNOLOGY, Hoboken, New Jersey	1
STEVENSON, JOHN J., New York City	2
STOCKHOLM. K. VITT. HIST. OCH ANTIQ. AKADEMIEN, Stockholm, Sweden	2
STOCKHOLM. SVEN. SÄLLSK. FÖR ANTROPOLOGI OCH GEOGRAFI, Stockholm, Sweden	1
STOCKHOLM. UNIVERSITÉ DE STOCKHOLM. INSTITUT DE BOTANIQUE, Stockholm, Sweden	1
STRASSBURG. KAISERLICHE UNIVERSITÄT, Strassburg, Germany	15
STRONG, R. M., Chicago (gift)	1
SWEDEN. FORSTLICHE VERSUCHSANSTALT, Stockholm, Sweden	1
SYRACUSE UNIVERSITY, Syracuse, New York	2
TASMANIA. DEPARTMENT OF AGRICULTURE, Hobart, Tasmania	1
TASMANIA. ROYAL SOCIETY, Hobart, Tasmania	1
TEXAS ACADEMY OF SCIENCE, Austin, Texas	1
TEXAS AGRICULTURAL EXPERIMENT STATION, College Station, Texas	6
TEXAS UNIVERSITY, Austin, Texas	2
THROOP INSTITUTE, Pasadena, California	1
THURINGISCHER BOTANISCHE VEREIN, Weimar, Germany	1
THURSTON, E., Madras, India	6
TIMBERMAN, THE, Portland, Oregon	1
TOKYO. ANTHROPOLOGICAL SOCIETY, Tokyo, Japan	1
TOKYO. BOTANICAL SOCIETY, Tokyo, Japan	1
TOKYO. DEUTSCHE GESELLSCHAFT FÜR NATUR UND VÖLKERKUNDE OSTASIENS, Tokyo, Japan	2
TOKYO. GEOLOGICAL SURVEY, Tokyo, Japan	1
TOKYO. IMPERIAL UNIVERSITY, Tokyo, Japan	3
TOOKER, WILLIAM WALLACE, Sag Harbor, New York	1
TORINO. MUSEO DI ZOOLOGIA ED ANATOMIA COMPARATA, Turin, Italy	1

TORINO. R. ACCAD. DELLE SCIENZE, Turin, Italy	2
TORONTO UNIVERSITY, Toronto, Canada	4
TRANVAAL. DEPARTMENT OF AGRICULTURE, Pretoria, Transvaal	1
TRANVAAL. DEPARTMENT OF MINES, Pretoria, Transvaal	2
TRANVAAL MUSEUM, Pretoria, Transvaal	2
TRING ZOÖLOGICAL MUSEUM, Tring, England	1
TRINIDAD AND TOBAGO DEPARTMENT OF AGRICULTURE, Trinidad	1
TRINITY COLLEGE, Dublin, Ireland	1
TROMSO MUSEUM, Tromso, Norway	2
TRONDHJEM K. NORSKE VIDEN. SELSKAPS, Trondhjem, Norway	1
TÜBINGEN. K. UNIVERSITÄTS BIBLIOTHEK, Tübingen, Germany	4
TUNIS. CARTHAGE INSTITUTE, Tunis, Africa	1
U. S. GOVERNMENT, Washington, D. C.	587
U. S. INDIAN SCHOOL, Carlisle, Pennsylvania	2
UPSALA. SOCIETAS SCIENTIARUM, Upsala, Sweden	3
UPSALA. UNIVERSITY, Upsala, Sweden	5
UTAH AGRICULTURAL EXPERIMENT STATION, Logan, Utah	3
UTAH. STATE HORTICULTURAL COMMISSION, Salt Lake City, Utah	1
VERMONT. STATE GEOLOGICAL SURVEY, Burlington, Vermont	1
VERMONT UNIVERSITY, Burlington, Vermont	8
VICTORIA AND ALBERT MUSEUM, South Kensington, England	3
VICTORIA. DEPARTMENT OF AGRICULTURE, Melbourne, Australia	2
VICTORIA FIELD NATURALISTS' CLUB, Melbourne, Australia	1
VICTORIA. PUBLIC LIBRARY, MUSEUMS AND NATIONAL GALLERY, Victoria, Australia	1
VICTORIA. ROYAL SOCIETY, Melbourne, Australia	1
VICTORIA. ROYAL ZOÖLOGICAL AND ACCLIMATIZATION SOCIETY, Melbourne, Australia	1
VIENNA. K. K. NATURHISTORISCHES HOFMUSEUM, Vienna, Austria	1
VIENNA. K. K. UNIVERSITÄT, Vienna, Austria	3
VIENNA. K. K. ZOÖLOGISCH, BOTANISCHE GESELLSCHAFT, Vienna, Austria	1
VIENNA. NATURWISSENSCHAFTLICHER VEREIN, Vienna, Austria	1
VIRCHOW, H., Berlin, Germany	3
VIRGINIA AGRICULTURAL EXPERIMENT STATION, Blacksburg, Virginia	5
VIRGINIA GEOLOGICAL SURVEY, Charlottesville, Virginia	8
VIRGINIA STATE LIBRARY, Richmond, Virginia	2
VIRGINIA UNIVERSITY, Charlottesville, Virginia	1
WAGNER FREE INSTITUTE OF SCIENCE OF PHILADELPHIA, Philadelphia, Pennsylvania	1
WASHINGTON ACADEMY OF SCIENCES, Washington, D. C.	2
WASHINGTON BIOLOGICAL SOCIETY, Washington, D. C.	2
WASHINGTON GEOLOGICAL SURVEY, Olympia, Washington	2
WASHINGTON STATE AGRICULTURAL COLLEGE, Pullman, Washington	9
WASHINGTON UNIVERSITY, St. Louis, Missouri	2
WAUGAUNI PUBLIC MUSEUM, Waugauini, New Zealand	1
WEGNER, RICHARD, Breslau, Germany	6

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WELLCOME CHEMICAL RESEARCH LABORATORIES, London, England	16
WELLER, STUART, Chicago	3
WELLINGTON ACCLIMATIZATION SOCIETY, Wellington, New Zealand	1
WESLEYAN UNIVERSITY, Middletown, Connecticut	2
WEST INDIES. IMPERIAL DEPARTMENT OF AGRICULTURE, Barbadoes, West Indies	2
WEST VIRGINIA AGRICULTURAL EXPERIMENT STATION, Morgantown, West Virginia	4
WEST VIRGINIA. STATE BOARD OF AGRICULTURE, Charleston, West Virginia	1
WESTERN AUSTRALIA. DEPARTMENT OF AGRICULTURE, Perth, West Australia	1
WESTERN AUSTRALIA. GEOLOGICAL SURVEY, Perth, West Australia	2
WESTERN PENNSYLVANIA ENGINEERS' SOCIETY, Pittsburgh, Pennsylvania	2
WHITE, JEAN, Melbourne, Australia	1
WIESBADEN. NASSAUISCHER VEREIN FÜR NATURKUNDE, Wiesbaden, Germany	1
WILLE, N., Christiania, Norway	2
WILLIAMS COLLEGE, Williamstown, Massachusetts	4
WILLISTON, S. W., Chicago	2
WILSON ORNITHOLOGICAL CLUB, Oberlin, Ohio	1
WINDSOR-KENFIELD PUBLISHING COMPANY, Chicago	2
WISCONSIN ARCHAEOLOGICAL SOCIETY, Madison, Wisconsin	1
WISCONSIN GEOLOGICAL AND NATURAL HISTORY SURVEY, Madison, Wisconsin	2
WISCONSIN STATE BOARD OF AGRICULTURE, Madison, Wisconsin	2
WISCONSIN STATE HISTORICAL SOCIETY, Madison, Wisconsin	2
WISCONSIN STATE HORTICULTURAL SOCIETY, Madison, Wisconsin	3
WISCONSIN UNIVERSITY, Madison, Wisconsin	32
WISTAR INSTITUTE OF ANATOMY AND BIOLOGY, Philadelphia, Pennsylvania	15
WOOD, NORMAN A., London, England	1
WORCESTER COUNTY HORTICULTURAL SOCIETY, Worcester, Massachusetts	1
WORCESTER FREE PUBLIC LIBRARY, Worcester, Massachusetts	2
WÜLFING, E. A., Heidelberg, Germany	3
WÜRTEMBERG. VEREIN FÜR VATERLÄNDISCHE NATURKUNDE, Wurtemberg, Germany	2
WYOMING AGRICULTURAL EXPERIMENT STATION, Laramie, Wyoming	3
WYOMING HISTORICAL AND GEOLOGICAL SOCIETY, Wilkesbarre, Pennsylvania	1
YALE UNIVERSITY, New Haven, Connecticut	12
YOUNG, R. T., University, North Dakota (gift)	1
ZIMANYI, KARL, Budapest, Hungary	3
ZÜRICH. BOTANISCHES MUSEUM DER UNIVERSITÄT, Zurich, Switzerland	2
ZÜRICH. NATURFORSCHENDE GESELLSCHAFT, Zurich, Switzerland,	2



FRUIT CLUSTER OF THE ILANG-ILANG (*Cananga odorata*)
Cultivated in the West Indies.

ARTICLES OF INCORPORATION

STATE OF ILLINOIS.

DEPARTMENT OF STATE.

WILLIAM H. HINRICHSSEN, *Secretary of State.*

TO ALL TO WHOM THESE PRESENTS SHALL COME, GREETING:

Whereas, a Certificate duly signed and acknowledged having been filed in the office of the Secretary of State, on the 16th day of September, A. D. 1893, for the organization of the COLUMBIAN MUSEUM OF CHICAGO, under and in accordance with the provisions of "An Act Concerning Corporations," approved April 18, 1872, and in force July 1, 1872, and all acts amendatory thereof, a copy of which certificate is hereto attached.

Now, therefore, I, William H. Hinrichsen, Secretary of State of the State of Illinois, by virtue of the powers and duties vested in me by law, do hereby certify that the said COLUMBIAN MUSEUM OF CHICAGO is a legally organized Corporation under the laws of this State.

In Testimony Whereof, I hereto set my hand and cause to be affixed the Great Seal of the State. Done at the City of Springfield, this 16th day of September, in the year of our Lord one thousand eight hundred and ninety-three, and of the Independence of the United States the one hundred and eighteenth.

W. H. HINRICHSSEN,
Secretary of State.

[SEAL.]

TO HON. WILLIAM H. HINRICHSSEN,

SECRETARY OF STATE:

SIR:

We, the undersigned, citizens of the United States, propose to form a corporation under an act of the General Assembly of the State of Illinois, entitled "An Act Concerning Corporations," approved April 18 1872, and all acts amendatory thereof; and that for the purposes of such organization we hereby state as follows, to wit:

1. The name of such corporation is the "COLUMBIAN MUSEUM OF CHICAGO."

2. The object for which it is formed is for the accumulation and dissemination of knowledge, and the preservation and exhibition of objects illustrating Art, Archæology, Science, and History.

3. The management of the aforesaid Museum shall be vested in a Board of FIFTEEN (15) TRUSTEES, five of whom are to be elected every year.

4. The following named persons are hereby selected as the Trustees for the first year of its corporate existence:

Ed. E. Ayer, Charles B. Farwell, George E. Adams, George R. Davis, Charles L. Hutchinson, Daniel H. Burnham, John A. Roche, M. C. Bullock, Emil G. Hirsch, James W. Ellsworth, Allison V. Armour, O. F. Aldis, Edwin Walker, John C. Black, and Frank W. Gunsaulus.

5. The location of the Museum is in the City of Chicago, County of Cook, and State of Illinois.

(Signed),

George E. Adams, C. B. Farwell, Sidney C. Eastman, F. W. Putnam, Robert McMurdy, Andrew Peterson, L. J. Gage, Charles L. Hutchinson, Ebenezer Buckingham, Andrew McNally, Edward E. Ayer, John M. Clark, Herman H. Kohlsaat, George Schneider, Henry H. Getty, William R. Harper, Franklin H. Head, E. G. Keith, J. Irving Pearce, Azel F. Hatch, Henry Wade Rogers, Thomas B. Bryan, L. Z. Leiter, A. C. Bartlett, A. A. Sprague, A. C. McClurg, James W. Scott, George F. Bissell, John R. Walsh, Chas. Fitzsimons, John A. Roche, E. B. McCagg, Owen F. Aldis, Ferdinand W. Peck, James H. Dole, Joseph Stockton, Edward B. Butler, John McConnell, R. A. Waller, H. C. Clatfield-Taylor, A. Crawford, Wm. Sooy Smith, P. S. Peterson, John C. Black, Jno. J. Mitchell, C. F. Gunther, George R. Davis, Stephen A. Forbes, Robert W. Patterson, Jr., M. C. Bullock, Edwin Walker, George M. Pullman, William E. Curtis, James W. Ellsworth, William E. Hale, Wm. T. Baker, Martin A. Ryerson, Huntington W. Jackson, N. B. Ream, Norman Williams, Melville E. Stone, Bryan Lathrop, Eliphalet W. Blatchford, Philip D. Armour

STATE OF ILLINOIS }
COOK COUNTY } ss.

I, G. R. MITCHELL, a NOTARY PUBLIC in and for said County, do hereby certify that the foregoing petitioners personally appeared before me and acknowledged severally that they signed the foregoing petition as their free and voluntary act for the uses and purposes therein set forth.

Given under my hand and notarial seal this 14th day of September 1893.

G. R. MITCHELL,

[SEAL.]

NOTARY PUBLIC, COOK COUNTY, ILL.

CHANGE OF NAME.

Pursuant to a resolution passed at a meeting of the Corporate members held the 25th day of June, 1894, the name of the COLUMBIAN MUSEUM was changed to FIELD COLUMBIAN MUSEUM. A certificate to this effect was filed June 26, 1894, in the office of the Secretary of State for Illinois.

CHANGE OF NAME.

Pursuant to a resolution passed at a meeting of the Corporate members held the 8th day of November, 1905, the name of the FIELD COLUMBIAN MUSEUM was changed to FIELD MUSEUM OF NATURAL HISTORY. A certificate to this effect was filed November 10, 1905, in the office of the Secretary of State for Illinois.

AMENDED BY-LAWS.

(JANUARY 9, 1911.)

ARTICLE I.

MEMBERS.

SECTION 1. Members shall be of five classes, Annual Members, Corporate Members, Life Members, Patrons and Honorary Members.

SEC. 2. Annual Members shall consist of such persons as are selected from time to time by the Board of Trustees at any of its meetings, and who shall pay an annual fee of ten dollars (\$10.00), payable within thirty days after notice of election, and within thirty days after each recurring annual date. The failure of any person to make such initiatory payment and such annual payments within said time shall, at the option of the Board of Trustees, be sufficient grounds for the forfeiture of an annual membership.

This said annual membership shall entitle the member to:

First.—Free admittance for the member and family, to the Museum on any day.

Second.—Ten tickets every year, admitting the bearer to the Museum on pay days.

Third.—A copy of all publications of the Museum when requested.

Fourth.—Invitations to all special exhibits, receptions, lectures, or other functions which may be given at the Museum.

SEC. 3. The Corporate Members shall consist of the persons named in the articles of incorporation, and of such other persons as shall be chosen from time to time by the Board of Trustees at any of its meetings, upon the recommendation of the Executive Committee; provided, that such persons named in the articles of incorporation shall, within ninety days from the adoption of these By-Laws, and persons hereafter chosen as Corporate Members shall, within ninety days of their election, pay into the treasury the sum of twenty dollars (\$20.00) or more. The failure of any person to make such payment within said time shall, at the option of the Board of Trustees, be ground for forfeiture of his corporate membership. Corporate Members becoming Life Members, Patrons or Honorary Members shall be exempt from dues. Annual meetings of said Corporate Members shall be held at the same place and on the same day that the annual meeting of the Board of Trustees is held.

SEC. 4. Any person paying into the treasury the sum of five hundred dollars (\$500.00), at any one time shall, upon the unanimous vote of the Board, become a Life Member. Life Members shall be exempt from all dues.

SEC. 5. Patrons shall be chosen by the Board upon recommendation of the Executive Committee from among persons who have rendered eminent service

to the Museum. They shall be exempt from all dues, and, by virtue of their election as Patrons, shall also be Corporate Members.

SEC. 6. Honorary Members shall be chosen by the Board from among persons who have rendered eminent service to science, and only upon unanimous nomination of the Executive Committee. They shall be exempt from all dues.

ARTICLE II.

BOARD OF TRUSTEES.

SECTION 1. The Board of Trustees shall consist of fifteen members. The respective members of the Board now in office, and those who shall hereafter be elected, shall hold office during life. Vacancies occurring in the Board shall be filled at a regular meeting of the Board, upon the nomination of the Executive Committee made at a preceding regular meeting, by a majority vote of the members of the Board present.

SEC. 2. Regular meetings of the Board shall be held on the second Monday of each month. Special meetings may be called at any time by the President, and shall be called by the Secretary upon the written request of three Trustees. Five Trustees shall constitute a quorum, except for the election of officers or the adoption of the Annual Budget, when seven Trustees shall be required, but meetings may be adjourned by any less number from day to day, or to a day fixed, previous to the next regular meeting.

SEC. 3. Reasonable written notice, designating the time and place of holding meetings, shall be given by the Secretary.

ARTICLE III.

HONORARY TRUSTEES.

SECTION 1. As a mark of respect, and in appreciation of services performed for the Institution, those Trustees who by reason of inability, on account of change of residence, or for other cause, or from indisposition to serve longer in such capacity, shall resign their places upon the Board, may be elected, by a majority of those present at any regular meeting of the Board, as Honorary Trustees for life. Such Honorary Trustees will receive notice of all meetings of the Board of Trustees, whether regular or special, and will be expected to be present at all such meetings, and participate in the deliberations thereof, but an Honorary Trustee shall not have the right to vote.

ARTICLE IV.

OFFICERS.

SECTION 1. The officers shall be a President, a First Vice-President, a Second Vice-President, a Secretary, an Assistant Secretary and a Treasurer. They shall be chosen by ballot by the Board of Trustees, a majority of those present and voting being necessary to elect. The President, the First Vice-President, and the Second Vice-President shall be chosen from among the members of the Board of Trustees. The meeting for the election of officers shall be held on the second Monday of January of each year, and shall be called the Annual Meeting.

SEC. 2. The officers shall hold office for one year, or until their successors are elected and qualified, but any officer may be removed at any regular meeting of the Board of Trustees by a vote of two-thirds of all the members of the Board. Vacancies in any office may be filled by the Board at any meeting.

SEC. 3. The officers shall perform such duties as ordinarily appertain to their respective offices, and such as shall be prescribed by the By-Laws, or designated from time to time by the Board of Trustees.

ARTICLE V.

THE TREASURER.

SECTION 1. The Treasurer shall be custodian of the funds of the Corporation. He shall make disbursements only upon warrants drawn by the Director and countersigned by the President. In the absence or inability of the Director, warrants may be signed by the Chairman of the Finance Committee, and in the absence or inability of the President, may be countersigned by one of the Vice-Presidents. But no warrants shall be issued, except in conformity with a regularly prepared voucher, giving the name of the payee and stating the occasion for the expenditure and verified and approved as hereinafter prescribed. It shall be no part of the duties of the Treasurer to see that the warrants have been issued in conformity with such vouchers.

SEC. 2. The securities and muniments of title belonging to the Corporation shall be placed in the custody of some Trust Company of Chicago to be designated by the Board of Trustees, which Trust Company shall collect the income and principal of said securities as the same become due, and pay same to the Treasurer. Said Trust Company shall allow access to and deliver any or all securities or muniments of title to the joint order of the following officers, namely: The President or one of the Vice-Presidents, jointly with the Chairman, or one of the Vice-Chairmen, of the Finance Committee of the Museum.

SEC. 3. The Treasurer shall give bond in such amount, and with such sureties, as shall be approved by the Board of Trustees.

SEC. 4. All vouchers executed for the payment of liabilities incurred in the administration of the Museum shall be verified by the Auditor, and approved for payment by the Director, and the Chairman of the Administration Committee. All vouchers executed for expenditures for the construction or reconstruction of the Museum building, or buildings, shall be verified by the Auditor and approved for payment by the Chairman of the Building Committee. All vouchers executed in connection with the investments of the Corporation, or, in any way having to do with the endowment funds of the Corporation, shall be verified by the Auditor and approved for payment by the Chairman of the Finance Committee.

ARTICLE VI.

THE DIRECTOR.

SECTION 1. The Board of Trustees shall elect a Director of the Museum, who shall remain in office until his successor shall be elected. He shall have immediate charge and supervision of the Museum, and shall control the operations of the institution, subject to the authority of the Board of Trustees and its Committees. The Director shall be the official medium of communication between the Board, or its Committees, and the scientific staff and maintenance force.

SEC. 2. There shall be four scientific departments of the Museum—Anthropology, Botany, Geology and Zoology—each under the charge of a Curator, subject to the authority of the Director. The Curators shall be appointed by the Board upon the recommendation of the Director, and shall serve during the pleasure of the Board. Subordinate staff officers in the scientific departments shall be appointed

and removed by the Director upon the recommendation of the Curators of the respective Departments. The Director shall have authority to employ and remove all other employees of the Museum.

SEC. 3. The Director shall make report to the Board at each regular meeting, recounting the operations of the Museum for the previous month. At the Annual Meeting, the Director shall make an Annual Report, reviewing the work of the Museum for the previous year, which Annual Report shall be published in pamphlet form for the information of the Trustees and Members, and for free distribution in such number as the Board may direct.

ARTICLE VII.

AUDITOR.

SECTION 1. The Board shall appoint an Auditor, who shall hold his office during the pleasure of the Board. He shall keep proper books of account, setting forth the financial condition and transactions of the Corporation, and of the Museum, and report thereon at each regular meeting, and at such other times as may be required by the Board. He shall certify to the correctness of all vouchers for the expenditure of the money of the Corporation.

ARTICLE VIII.

COMMITTEES.

SECTION 1. There shall be five Committees, as follows: Finance, Building, Auditing, Administration and Executive.

SEC. 2. The Finance and Auditing Committees shall each consist of three members, and the Building and Administration Committees shall each consist of five members. All members of these four Committees shall be elected by ballot by the Board at the Annual Meeting, and shall hold office for one year, and until their successors are elected and qualified. In electing the members of these Committees, the Board shall designate the Chairman and Vice-Chairman by the order in which the members are named in the respective Committees; the first member named shall be Chairman, the second named the Vice-Chairman, and the third named Second Vice-Chairman, succession to the Chairmanship being in this order in the event of the absence or disability of the Chairman.

SEC. 3. The Executive Committee shall consist of the President of the Board, the Chairman of the Finance Committee, the Chairman of the Building Committee, the Chairman of the Administration Committee, the Chairman of the Auditing Committee, and two other members of the Board to be elected by ballot at the Annual Meeting.

SEC. 4. Four members shall constitute a quorum of the Executive Committee; three members shall constitute a quorum of the Administration Committee, and in all other standing Committees, two members shall constitute a quorum. In the event that, owing to the absence or inability of members, a quorum of the regularly elected members cannot be present at any meeting of any Committee, then the Chairman thereof, or his successor, as herein provided, may summon any member of the Board of Trustees to act in place of the absentee.

SEC. 5. The Finance Committee shall have supervision of investing the endowment and other permanent funds of the Corporation, and the care of such real estate as may become its property. It shall have authority to invest, sell, and reinvest, funds, subject to the approval of the Board.



HABITAT GROUP OF MEADOW MICE OR VOLES (*Microtus pennsylvanicus*).

SEC. 6. The Building Committee shall have supervision of the construction, reconstruction, and extension of any and all buildings used for Museum purposes.

SEC. 7. The Executive Committee shall be called together from time to time as the Chairman may consider necessary, or as he may be requested to do by three members of the Committee, to act upon such matters affecting the administration of the Museum as cannot await consideration at the Regular Monthly Meetings of the Board of Trustees. It shall, before the beginning of each fiscal year, prepare and submit to the Board an itemized Budget, setting forth the probable receipts from all sources for the ensuing year, and make recommendations as to the expenditures which should be made for routine maintenance and fixed charges. Upon the adoption of the Budget by the Board, the respective Committees shall be considered as authorized to make the expenditures detailed therein. No increase in the expenditures under any items of the Budget shall be made, except by authority of the Board of Trustees, but the Executive Committee shall have authority, in cases of emergency, to expend a further total sum not exceeding two thousand dollars in any one month.

SEC. 8. The Administration Committee shall have general supervision of the affairs of the Museum. The Committee shall hold one meeting each month with the Director at the Museum within a week preceding each Monthly Meeting of the Board of Trustees.

SEC. 9. The Auditing Committee shall have supervision over all accounting and bookkeeping, and full control of the financial records. It shall cause the same, once each year, or oftener, to be examined by an expert individual or firm, and shall transmit the report of such expert individual or firm to the Board at the next ensuing regular meeting after such examination shall have taken place.

SEC. 10. The Chairman of each Committee shall report the acts and proceedings thereof at the next ensuing regular meeting of the Board.

SEC. 11. The President shall be ex-officio a member of all Committees and Chairman of the Executive Committee. Vacancies occurring in any Committee may be filled by ballot at any regular meeting of the Board.

ARTICLE IX.

NOMINATING COMMITTEE.

SECTION 1. At the November meeting of the Board, each year a Nominating Committee of three shall be chosen by lot. Said Committee shall make nominations for membership of the Finance Committee, the Building Committee, the Administration Committee, and the Auditing Committee, and for two members of the Executive Committee, from among the Trustees, to be submitted at the ensuing December meeting and voted upon at the following Annual Meeting in January.

ARTICLE X.

SECTION 1. Whenever the word "Museum" is employed in the By-Laws of the Corporation, it shall be taken to mean the building in which the Museum as an Institution is located and operated, the material exhibited, the material in study collections, or in storage, furniture, fixtures, cases, tools, records, books, and all appurtenances of the Institution, and the workings, researches, installations, expenditures, field work, laboratories, library, publications, lecture courses, and all scientific and maintenance activities.

SEC. 2. These By-Laws may be amended at any regular meeting of the Board of Trustees by a two-thirds vote of all the members present, provided the amendment shall have been proposed at a preceding regular meeting.

HONORARY MEMBERS.

EDWARD E. AYER	STANLEY McCORMICK
HARLOW N. HIGINBOTHAM	ROBERT F. CUMMINGS
CHARLES B. CORY	MRS. TIMOTHY B. BLACKSTONE
NORMAN W. HARRIS	

DECEASED.

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ERNEST R. GRAHAM	FREDERICK W. PUTNAM
NORMAN W. HARRIS	FREDERICK J. V. SKIFF
VERNON SHAW KENNEDY	WILLARD A. SMITH

DECEASED.

WILLIAM I. BUCHANAN
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FLOWERING BRANCH OF LIGNUM VITAE.
(*Guaiacum officinale*)

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CHATFIELD-TAYLOR, H. C.
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HIGINBOTHAM, H. N.
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SMITH, WILLARD A.
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SPRAGUE, A. A., 2D.
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HUGHITT, MARVIN	SPRAGUE, A. A.
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ISHAM, MRS. KATHERINE	THORNE, GEORGE R.
PORTER.	
	WILLARD, ALONZO J.



HABITAT GROUP OF NORTHERN WHITE-FOOTED MICE (*Peromyscus leucopus neobornae*)

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TEMPLETON, THOMAS
 TOBEY, FRANK B.

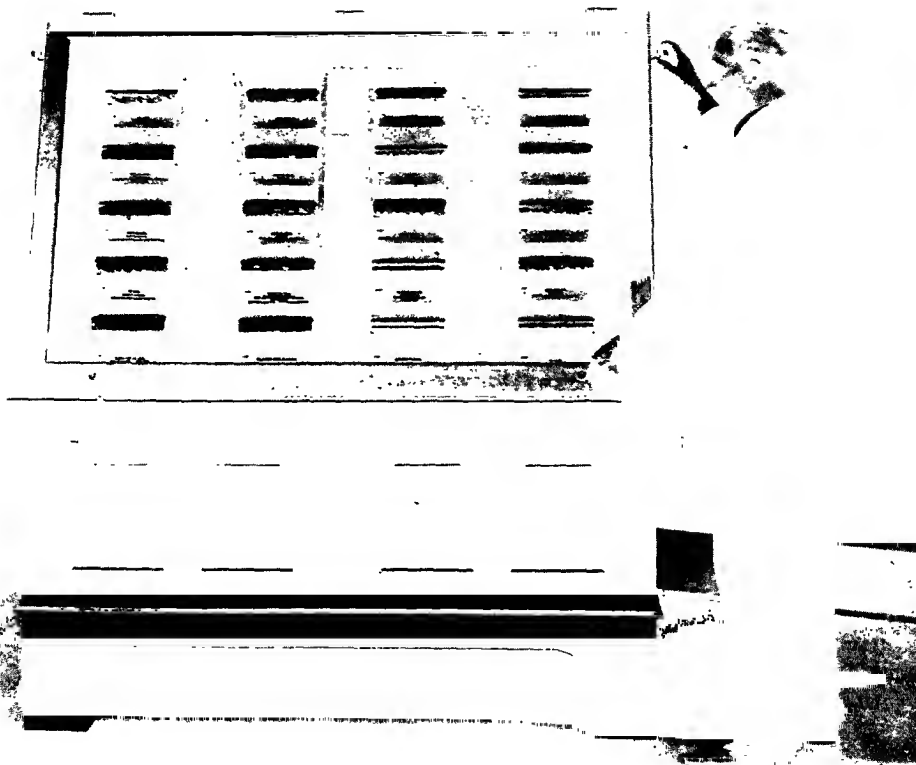
UIHLEIN, EDWARD G.

WACKER, CHARLES H.
 WALKER, JAMES R.
 WALKER, WILLIAM B.
 WALLER, EDWARD C.
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 WHITE, A. STAMFORD
 WHITEHEAD, W. M.
 WILSON, MRS. E. C.
 WILSON, M. H.
 WOODCOCK, LINDSAY T.

DECEASED.

CARPENTER, A. A.

McGUIRE, REV. H.



DEVICE FOR EXHIBITING PETROLEUM SANDS.

The sands are placed in tubes which can be turned for examination by a wheel outside the case.



WATSON F. BLAIR
Second Vice-President and Chairman of the Finance Committee

FIELD MUSEUM OF NATURAL HISTORY.

PUBLICATION 165.

REPORT SERIES.

VOL. IV, No. 3.

ANNUAL REPORT OF THE
DIRECTOR

TO THE
BOARD OF TRUSTEES

FOR THE YEAR 1912.



CHICAGO, U. S. A

January, 1913.

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A. A. SPRAGUE, 2nd.	

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DECEASED.

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EDWIN WALKER.	

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FAY COOPER COLE, *Assistant Curator Physical Anthropology and Malayan Ethnology.*

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B. E. DAHLGREN, *Assistant Curator Division of Economic Botany.*

HURON H. SMITH, *Assistant Curator Division of Dendrology.*

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EDMOND N. GUERET, *Assistant Curator Division of Osteology.*

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D. C. DAVIES.

THE LIBRARY.

ELSIE LIPPINCOTT, *Librarian.*

ANNUAL REPORT OF THE DIRECTOR. 1912.

To the Trustees of Field Museum of Natural History:

I have the honor to present a report of the operations of the Museum for the year ending December 31, 1912.

The progress of installation during the year, especially in Asiatic and Philippine Ethnology and in Zoology — the latter including a number of large bird and animal groups — has so encroached upon the rooms reserved for storage purposes and so congested certain halls, that it has been found necessary to reopen the West Annex, which had been vacated in anticipation of the commencement of the construction of the new Museum building, and by the time this report reaches the Board the four scientific departments of the Museum will be provided, for the present at least, with ample storage and preparators' work rooms. The Joseph N. Field Expedition to the South Pacific Islands has concluded its work under Mr. Lewis, and upon his return, soon expected, the vast amount of material received by the Museum as a result of his survey and collections will be catalogued, labelled and prepared for installation. It is estimated that this material will fill four or five halls. The Curator of the Department of Anthropology, who has been absent on a protracted leave of absence, returned to his duties in June and the inspiration given to the work of that Department by the personal presence of its Curator is quite apparent in the references elsewhere made to the progress of that Department. Mr. Fay Cooper Cole, who conducted so successful an expedition to the Philippine Islands, has been appointed Assistant Curator of Physical Anthropology and Malayan Ethnology. Mr. S. Chapman Simms has, upon the approval of the Curators of the scientific departments, been appointed by the Director, Curator of "The N. W. Harris Public School Extension of Field Museum," and the work of preparation — in selecting type cases, character of unit collections, etc. — is well advanced. The suite of the Curator of Harris Extension has been established in the southwest halls of the West Annex. Assistant Curator Owen is completing his work among the Hopi in Arizona, under the Stanley McCormick Fund. Mr. Huron H. Smith, who has been in the field collecting North American Forestry for the past three years, having completed his work, has returned and is now in charge of the preparation and installation of

this large collection, which will naturally involve a great deal of time and labor and eventually present an unexampled exhibit in this material. Assistant Curator Greenman of the Department of Botany has resigned to accept a position with the Missouri Botanical Garden of St. Louis, leaving this Institution with the best wishes of his colleagues. Assistant Curator Riggs has made marked progress in working up the splendid result of his last paleontological expedition in the Uintah desert in northeastern Utah, and there is now on exhibition probably the most complete collection of skulls from this formation in the world. The purchase of the meteorite collection of the late Henry A. Ward, which for several years has been on exhibition at the American Museum of Natural History, has established the Museum in the first rank in this interesting division. The material is being installed in the cases accompanying the collection, but will not be placed on exhibition in the present building. The most important field expedition this year was that under Mr. Osgood, Assistant Curator of Mammalogy and Ornithology, to South America, the results of which expedition are more specially set forth under the proper heading. The work is being conducted in charge of two assistants, although Mr. Osgood has returned to the Museum. Assistant Curator Meek has completed his second survey in the Panama Canal Zone in connection with Smithsonian Institution, with excellent results and abundant material for the study collections and for publication. Mr. Carl E. Akeley has commenced work upon large African mammal groups in performance of his contract entered into with the Museum a year or more ago. His first group will be the Cape Buffalo, consisting of five individuals. Under the patronage of Mr. Stanley Field and Mr. Albert A. Sprague II four most striking, brilliant four-section bird groups have been acquired. In response to the demand from the Curators for exhibition cases, the Trustees transferred the sum of \$105,000 to a "New Exhibition Cases Fund," and it is believed that this provision will give to the Museum all the cases it will be considered advisable to install before the occupation of the new building. There is not sufficient exhibition space remaining in the entire Museum to accommodate this number of new cases, approximating 600, and, therefore, as the cases are installed, instead of being introduced in their proper halls or suites they will be stored in the West Annex and not be accessible by the public until placed in the proper position in the new building. Among the publications of the Museum, listed hereafter, that on "Jade; A Study in Chinese Archaeology and Religion," by Dr. Laufer, has created a demand from the public exceeding that of any publication issued by the Institution. It has been widely reviewed and highly complimented. Mr. Richard T. Cranc, Jr., has resigned from



HABITAT GROUP SONORA GRIZZLY BEAR (*Ursus horribilis horribilis*)

the Board of Trustees on account of the pressure of private business, and eleven new Life Members have been elected during the year. A number of important donations have been made in the collections of the Museum, including two very interesting and valuable Chinese paintings, presented by the Tuesday Art and Travel Club of Chicago. The paintings are of scroll work on silk, measuring twenty-five and thirty feet in length. Every evidence of progressive activity in scientific and popular lines will be found upon consulting the review of the work following:

MAINTENANCE.—The Budget authorized by the Board of Trustees provided the sum of \$179,030 for the maintenance of the Museum for the year ending December 31, 1912. The amount expended was \$167,612 which leaves a margin of \$11,418. In addition to the cost of maintenance \$70,400 was expended by authority of the Board for collections, expeditions and so forth, bringing the total expenditure for the year to \$238,000.

LECTURE COURSE.—The attendance at the two courses given was highly gratifying, the seating capacity of Fullerton Hall being inadequate to accommodate those desiring to attend. Following is a list of the lectures given during the year:

Thirty-sixth Free Illustrated Lecture Course:

March 2. "Elephant Hunting in Africa."

Mr. C. E. Akeley, New York.

March 9.—"A Monkey on Safari."

Mr. C. E. Akeley, New York.

March 16.—"Journeys in Mexico."

Prof. O. C. Farrington, Curator of Geology, Field Museum.

March 23.—"The Life of the Soil."

Prof. George T. Moore, Missouri Botanical Garden.

March 30.—"The R. F. Cummings Philippine Expedition: The Philippines Before and After American Occupation."

Mr. Fay Cooper Cole, Ethnologist, Field Museum.

April 6.—"Conservation of Wild Life."

Mr. Richard E. Follett, New York.

April 13.—"The Panama Canal and its Makers."

Mr. Frederick I. Monsen, New York.

April 20.—"Egypt and the Nile."

Mr. Arthur Stanley Riggs, New York.

April 27.—"Southeastern Italy and Sicily To-day."

Mr. Arthur Stanley Riggs, New York.

Thirty-seventh Free Illustrated Lecture Course:

- Oct. 5.—“A Botanist in the Orient—I.”
Dr. Charles F. Millspaugh, Curator, Department of Botany, Field Museum.
- Oct. 12.—“A Botanist in the Orient—II.”
Dr. Charles F. Millspaugh, Curator, Department of Botany, Field Museum.
- Oct. 19.—“In Costa Rica and Panama.”
Dr. S. E. Meek, Assistant Curator, Department of Zoology, Field Museum.
- Oct. 26.—“A Naturalist's Reconnaissance in Colombia.”
Prof. Frank M. Chapman, American Museum of Natural History.
- Nov. 2.—“The R. F. Cummings Philippine Expedition: The Pigmies of the Philippine Islands.”
Mr. Fay Cooper Cole, Ethnologist, Field Museum.
- Nov. 9.—“Plant Breeding.”
Prof. J. M. Coulter, University of Chicago.
- Nov. 16.—“The Geology of China and its Influence upon the Chinese People.”
Prof. Eliot Blackwelder, University of Wisconsin.
- Nov. 23.—“The Mrs. T. B. Blackstone Tibetan and Chinese Expedition: Chinese Art.”
Dr. Berthold Laufer, Associate Curator of Asiatic Ethnology, Field Museum.
- Nov. 30.—“Prof. Whitman's Unpublished Researches on Heredity and Evolution.”
Dr. Oscar Riddle, Research Assistant, Carnegie Institution.

PUBLICATIONS.—During the year thirteen publications of the established series were issued and some of these exceed in importance any hitherto published by the Institution. Following is a list of the publications issued and their distribution:

- Pub. 152.—Anthropological Series, Vol. VII, No. 4. Antiquities from Boscorcale in Field Museum of Natural History. By Herbert F. De Cou. 68 pages, 1 map, 64 halftones, 2 zinc etchings. Edition 1,500.
- Pub. 153.—Zoological Series, Vol. XI. The Mammals of Illinois and Wisconsin. By Charles B. Cory. 505 pages, numerous maps, halftones and zinc etchings. Edition 2,500.

- Pub. 154.—Anthropological Series, Vol. X. Jade, A Study in Chinese Archaeology and Religion. By Berthold Laufer. 370 pages, 68 plates, 6 of which are colored, and 204 text figures. Edition 1,500.
- Pub. 155.—Zoological Series, Vol. X, No. 5. Mammals from Western Venezuela and Eastern Colombia. By Wilfred H. Osgood. 33 pages, 2 halftones. Edition 1,500.
- Pub. 156.—Anthropological Series, Vol. XI, No. 1. The Oraibi Marau Ceremony. By H. R. Voth. 88 pages, 33 illustrations. Edition 1,500.
- Pub. 157.—Anthropological Series, Vol. XI, No. 2. Brief Miscellaneous Hopi Papers. By H. R. Voth. 61 pages, 24 illustrations. Edition 1,500.
- Pub. 158.—Zoological Series, Vol. X, No. 6. Descriptions of New Fishes from Panama. By S. E. Meek and S. F. Hildebrand. 2 pages. Edition 1,500.
- Pub. 159.—Geological Series, Vol. IV, No. 2. New or Little Known Titanotheres from the Lower Uintah Formations. By E. S. Riggs. 25 pages, 23 halftones, 2 zinc etchings. Edition 1,500.
- Pub. 160.—Report Series, Vol. IV, No. 2. Annual Report of the Director to the Board of Trustees, for the year 1911. 82 pages, 14 halftones. Edition 2,500.
- Pub. 161.—Zoological Series, Vol. VII, No. 13. Index to Volume VII, Numbers 1 to 12.
- Pub. 162.—Anthropological Series, Vol. XII, No. 1. Chinese Pottery in the Philippines. By Fay Cooper Cole with postscript by Berthold Laufer. 47 pages, 22 plates. Edition 1,500.
- Pub. 163.—Zoological Series, Vol. X, No. 7. New Species of Fishes from Costa Rica. By S. E. Meek. 7 pages. Edition 1,500.
- Pub. 164.—Botanical Series, Vol. II, No. 8. I. New Species of Cuban Senecioneae. II. Diagnoses of New Species and Notes on other Spermatophytes, chiefly from Mexico and Central America. By Jesse More Greenman. 28 pages. Edition 1,500.

NAMES ON MAILING LIST

Domestic	602
Foreign	690
Total	1,292

DISTRIBUTION OF FOREIGN EXCHANGES

Argentine Republic	12	India	14
Australia	30	Italy	36
Austria-Hungary	32	Jamaica	2
Belgium	17	Japan	9
Borneo	1	Java	4
Brazil	10	Liberia	1
British East Africa	1	Malta	1
British Guiana	2	Mexico	20
Bulgaria	1	Natal	3
Canada	28	Netherlands	21
Cape Colony	6	New Zealand	7
Ceylon	3	Peru	2
Chile	2	Norway	8
China	2	Portugal	5
Colombia	2	Rhodesia	2
Costa Rica	5	Roumania	1
Denmark	9	Russia	18
East Africa	1	Salvador	1
Ecuador	1	Sicily	1
Egypt	2	Spain	6
France	57	Straits Settlements	1
Fiji Islands	1	Sweden	16
Finland	1	Switzerland	21
Germany	137	Tasmania	2
Great Britain	114	Transvaal	3
Greece	2	Uruguay	1
Guatemala	1	West Indies	4

DISTRIBUTION OF PUBLICATIONS (FOREIGN)

Anthropological	306
Botanical	365
Entomological	160
Geological	358
Ichthyological	164
Ornithological	204
Report	690
Zoological	294

DISTRIBUTION OF DOMESTIC EXCHANGES

Alabama	2	Iowa	14
Arkansas	1	Kansas	7
California	28	Kentucky	2
Colorado	13	Louisiana	4
Connecticut	21	Maine	7
Delaware	2	Maryland	9
District of Columbia	66	Massachusetts	66
Florida	2	Michigan	12
Idaho	1	Minnesota	9
Illinois	61	Mississippi	3
Indiana	15	Missouri	13

Montana	2	South Dakota	2
Nebraska	7	Tennessee	2
Nevada	3	Texas	2
New Hampshire	4	Utah	1
New Jersey	14	Vermont	4
New Mexico	2	Virginia	4
New York	80	Washington	6
North Carolina	6	West Virginia	6
North Dakota	2	Wisconsin	16
Ohio	19	Wyoming	2
Oklahoma	2	Cuba	3
Oregon	1	Hawaii	5
Pennsylvania	39	Philippine Islands	2
Rhode Island	5	Porto Rico	1
South Carolina	2		

DISTRIBUTION OF PUBLICATIONS (DOMESTIC)

Anthropological	233
Botanical	303
Geological	314
Historical	165
Ichthyological	156
Ornithological	160
Report	602
Zoological	265

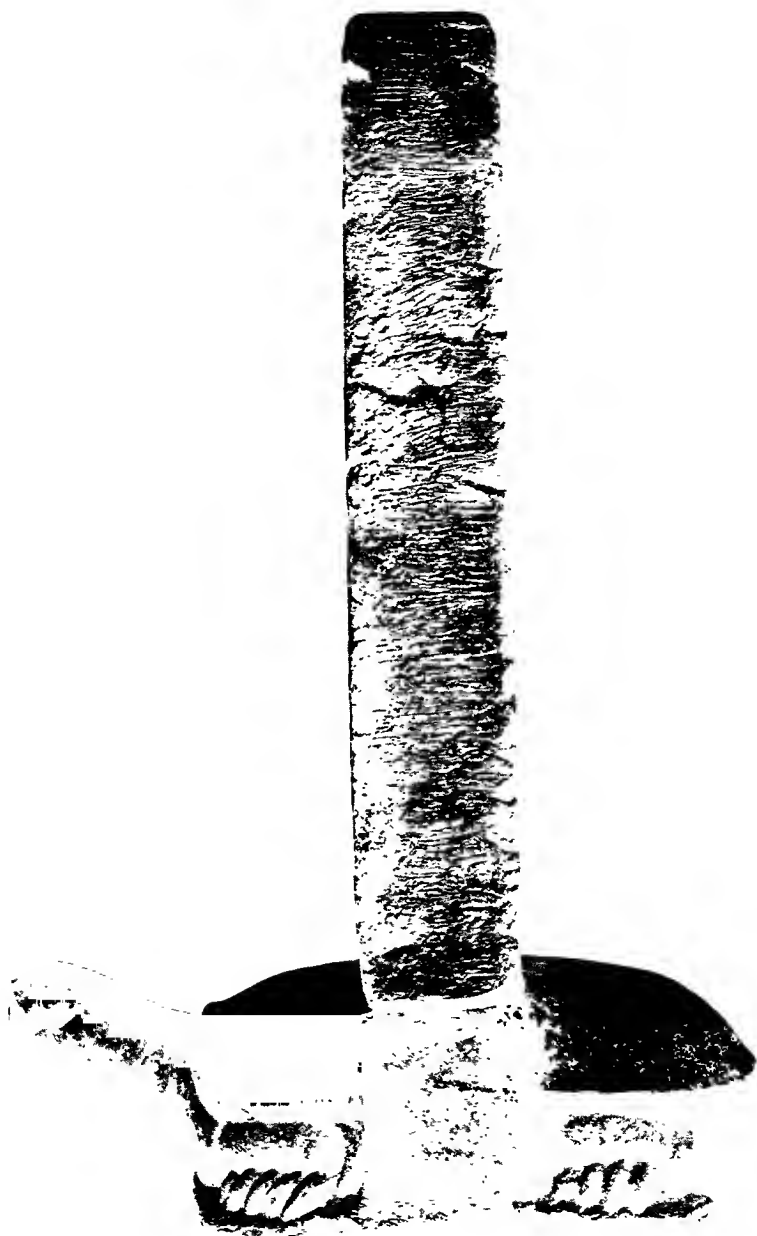
THE LIBRARY.—The additions received during the year exclusive of duplicates were 2,263, increasing the number of books and pamphlets in the library to 58,133. Of this number 1,000 were received by gift or exchange and 363 by purchase, distributed as follows:

General Library	39,611
Department of Anthropology	2,807
Department of Botany	6,167
Department of Geology	7,114
Department of Zoology	2,434
Total	58,133

The regular routine work of recording the books requisitioned, ordered, received, catalogued, bound and shelved has been continued, always with an aim to have the system as satisfactory as possible to give efficient results. The accessions of the year have been of unusual value and importance. Publications were received from 727 individuals and institutions, and 27 new exchanges were effected. The fund available for the purchase of books was carefully expended upon works selected by the staff. Among the more important purchases were the New (11th) Edition of the Encyclopaedia Britannica, the last edition of the Century Dictionary, a beautifully illustrated

copy of the "Catalogue of the Ancient Imperial Treasury called Shôsoin," Fenollosa's Epochs of Chinese and Japanese Art, Smith's History of Fine Arts in India and Ceylon, Havell's Indian Sculpture and Painting, Lindt's Picturesque New Guinea, Bentham's Botany of the Voyage of H. M. S. Sulphur, 1836-1842, Bentham and Mueller's Flora of Australia, Bradley's Bibliography, Hallier's Flora von Deutschland, Richards' Ore Dressing, Osborne's Engraved Gems, Alpheraky's Geese of Europe and Asia, and Scammon's Mammals of the West Coast of Africa. Through the courtesy of Mr. George Manierre the Museum received a set of Paxton's Magazine of Botany, 16 volumes. This set is becoming increasingly rare and the library was fortunate in receiving so valuable a gift. As in former years the library is again indebted to Mr. Edward E. Ayer for gifts of books, also to Mr. Henry H. Getty of Paris, France; Mr. Ezra Brainerd, Middlebury, Vermont; Mr. William Barnes, Decatur, Illinois; Professor Walter Barrows, Lansing, Michigan; Mrs. M. W. Lyman, Chicago; and Dr. Berthold Laufer; and to the following institutions: Bureau of Aboriginal Affairs, and Bureau of Production and Industry, Government of Formosa; Indian Museum, Calcutta; Indiana State Board of Forestry; Maryland State Board of Forestry; Museo Nacional de Arqueologia, Historia y Etnologia, Mexico; North Carolina Geological and Economic Survey, Raleigh; Passau Naturhistorischer Verein, Germany; Pennsylvania Topographic and Geologic Survey Commission; and Tokyo Botanical Society. The current periodical list is being gradually increased with a view to eventually including the standard scientific periodicals pertaining to the work of the Museum. The number of books, serials, periodicals and pamphlets bound during the year was 1,012. A number of pamphlets by various authors were bound in cloth to more properly protect them. The return of the books from the bindery again overtaxed the limited shelf space in the stack room and some of the least used books were shelved in temporary cases. A desired improvement was made in the library of the Department of Anthropology, the shelving having been enclosed by glass doors that will assist greatly in keeping the books free from dust. There have been written and added to the catalogues 18,146 cards. Two sections of the recently adopted metal card cabinet were purchased. Monthly installments of the John Crerar Catalogue cards were received and filed.

DEPARTMENTAL CATALOGUING, INVENTORING AND LABELING. — Nearly 6,000 catalogue cards have been entered in the inventory books of the Department of Anthropology during the year, the large majority of these pertaining to the Blackstone Chinese and Japanese collections. About 800 cards have been written from the Philippine collections,



CHINESE STONE SCULPTURE OF T'ANG PERIOD (742 A. D.) OF TORTOISE CARRYING
INSCRIBED TABLET.

covering the Ayer, Darrah, Jenks and Porter collections and nearly a thousand labels prepared for the Tlingit collections now installed in the East Alcoves of the South Court. The iron agricultural implements from Boscoreale installed in the North Court have been labeled and about 800 specimen labels have been prepared for the Philippine material, besides many large descriptive labels especially prepared for groups and for special industries. Many revised labels have been placed in the McCormick Hopi collections and the old buff labels in the Egyptian Hall have been replaced by black and white labels. Rubbings of the inscriptions on the great stone sarcophagus from Egypt have been made and submitted to Dr. Breasted of the University of Chicago, to be used in preparing a comprehensive label. There have been prepared for the Chinese collections 1,100 labels. In these Dr. Laufer has aimed, so far as possible, to avoid technical phraseology and erudition, to make the labels plain and intelligible to the layman. Thus, in explaining Chinese paintings emphasis has been laid on the appreciation of the spirit and inward qualities of Chinese art, in order to lead the public to a correct understanding and a sound judgment rather than to actual knowledge of a subject so foreign to the majority of people. All the current accessions in the Department of Botany for the past year, amounting to 13,517 specimens, have been catalogued and 11,078 specimens entered from the large collections undergoing organization. These two items make a total of 24,595 entries made in the catalogue volumes during the year. A new and additional steel card index case has been added to the laboratory equipment, comprising 91 drawers. This will give a capacity for expansion of the "Special Index" for about three years. All specimens added to the exhibition cases in the Department have been labeled. The material received by the Department of Geology during the year was fully inventoried and catalogued with the exception of the Ward-Coonley meteorites, cataloguing of which is still in progress. The cataloguing accomplished was chiefly of collections of fossils and minerals and the fossils collected in Iowa by the Assistant Curator of Invertebrate Paleontology. Careful identification of species was carried on in connection with this work. While this requires the expenditure of much time, the greater completeness of the catalogue thus obtained is believed desirable. The series of petroleum received during the year numbering 228 specimens was also fully catalogued. To the card catalogue of vertebrate fossils 32 cards giving full description of specimens were added. The Department library was increased by the addition of 646 books, pamphlets and maps, and 123 cards were added to the catalogue of the library, making a total of 2,614 cards. A considerable amount of labeling of

a permanent character has been accomplished, the total number of labels prepared and in part printed and distributed being about 3,000. A number of single series were fully labeled and the labeling according to standard practice of all specimens at present exhibited in the Department is rapidly approaching completion. For the most part new labels replace those of mixed character heretofore used. Many of these were hand written, and the rest were of the old buff card-board type, which were among the first products of the Museum printing shop. Many of these were made for a type of specimen mount now abandoned and in shape and size were unadapted to the present installation. In reprinting these labels in aluminum ink on black cards, it was often found desirable to increase the size of the type. This called for a revision of the matter on the labels so that what was relatively unimportant as well as any matter appearing on the accompanying group labels was omitted. The greater part of the new labeling accomplished related to the ore collections occupying Hall 34. Except for the marbles and building stones, which were done previously, the labels for the whole of Hall 34 were revised during the year, and those for the gold, silver, lead and platinum collections installed. The total number of labels thus prepared was about 2,000. Besides the preparation of labels for the individual specimens attention was paid to group labels in this series and enough of them were provided to break up the too uniform appearance of lines of specimens. Besides the group labels of the type formerly employed, a number of mining district labels were prepared. These state briefly where the district is located and give a few of the more salient features of its ore deposits. In preparing these labels every effort was made to keep the labels as brief as possible, to use as large type in the body of the label as possible, and to employ language as non-technical as the subject would allow. An extensive series of labels was prepared for the petroleum collection and the labeling of this collection was practically completed. Nearly 500 labels were prepared for this collection, about 30 of them being descriptive and the remainder giving full details. The Chalmers collection of crystals, occupying Alcove 105, was provided with a full series of new labels, about 200 labels being prepared for the purpose. About 300 labels were prepared and distributed among the larger rock specimens to replace those of a miscellaneous character which had hitherto been used. Complete individual labels to the number of 45 and one large descriptive label were provided for the case of fossil Eocene mammals, Hall 59. A series of individual and descriptive labels numbering about 30 was provided for the blast furnace models. A number of defective or writ-

ten labels in the clay and soil collections were replaced by correct ones. Considerable attention was paid during the year to devising a new form of case label and the results at present attained seem satisfactory. The difficulty has been to find a stock for printing which would correspond with the case in color and not change under the action of light. After numerous experiments the end seems to be attained by employing a mahogany veneer mounted upon a heavy board. The veneer is finished to correspond in color and gloss with the case and the text of the label is then printed upon it. About 40 of these labels have been prepared and installed. Their appearance is much better than that of the cardboard hitherto employed and it is believed they will not suffer from fading. In the Department of Zoology the usual routine of cataloguing has been maintained. Altogether 902 entries have been made; 861 in Ornithology and 41 in Mammalogy. The Division of Ichthyology and Herpetology has been without an assistant for more than two years and for this reason cataloguing in this Division has advanced slowly. In addition to his regular duties the Assistant Curator of Entomology has devoted considerable time to relabeling the systematic bird collection during the absence of Assistant Curator Osgood, who was absent in the field. Considerable progress was, however, made in improving the local collection of insects of which 800 specimens were pinned, labeled and distributed with the result that the Illinois Orthoptera, or grasshoppers, roaches, etc., have now been identified and systematically arranged so that these insects will henceforth be accessible for study or other purposes. The collection of Systematic Osteology and Craniology has been relabeled throughout, the common name of the species being placed in bold type at the top of the label.

The work in this important direction is shown in detail as follows:

	No of Record Books	Total No of Entries to Dec. 31, 1912.	Entries During 1912.	Total No. of Cards Written.
Department of Anthropology	34	123,530	6,000	124,281
Department of Botany	56	354,434	24,595	40,225
Department of Geology	21	124,016	3,294	7,579
Department of Zoology	40	83,930	929	29,962
The Library	14	94,811	7,394	142,122
Section of Photography	8	101,554	8,984	.....

ACCESSIONS.—As usual, the majority of accessions acquired by the Department of Anthropology have been through gift. Mr. Homer Sargent continued to show his interest in the Museum by presenting additional valuable material illustrating the technology of certain Salish tribes of the Fraser River region. From Mr. Charles A. Baker, as administrator for the Estate of the late R. H. Baker, the Museum

obtained valuable specimens from the South Pacific Islands, with many photographs and 66 Japanese and Ainu specimens. These have all been catalogued, labeled and installed in Hall 56. The Ainu material was especially welcome as it supplements the present collection. The Japanese specimens enables the Museum, with the addition of the material already on hand, to make what may be said to be the beginning of a Japanese section. Even thus, it must be admitted that Japan is very poorly and inadequately represented in this Department, and immediate attention should be given to its development. One of the most significant acquisitions of the year was by gift from the Tuesday Art and Travel Club of Chicago, who presented to the Museum two magnificent ancient rolls painted on silk. One, over 27 feet long, represents one of China's famous paintings, showing the life, traffic, and culture of a mediaeval town at the end of the Twelfth Century; the other picture, 21 feet long, represents one hundred boys at play and imparts a vivid description of China's games and customs, painted in a graceful style during the Ming period. Both paintings are exhibited in specially prepared cases in Hall 45, being accompanied by detailed explanatory labels. Mr. John Muir, a missionary at Batang on the Tibetan and Chinese frontier, returned to Chicago with a collection of 165 Tibetan specimens, including a number of interesting paintings, books, costumes, weapons, ornaments, and a model of a Tibetan house, all of which form valuable additions to the Tibetan collections obtained by Dr. Laufer. A fine Chinese tapestry, nearly 20 feet long, representing The Eighteen Arhat (disciples of Buddha) in the act of crossing the sea, in the style of the famous painter Li Lungmien, has been acquired by purchase. This notable specimen came to this country at least a century ago through a Chinese family settling in California. A collection of 9 pieces of Han pottery has been purchased from Dr. Buckens, a Belgian physician in the service of the Peking-Hankow Railway, who had exceptional facilities for procuring antiquities excavated during the construction of railroads. The mortuary stoves and towers in this collection well supplement the manifold types on hand. There is, besides, a fine piece of Tchang pottery in this lot, an amphora-shaped jar with double dragon handles, made in imitation of Persian ware of the Sassanian epoch. A curious album, with beautifully lacquered covers painted in gold with miniatures, is another valuable addition; it contains 25 specimens of popular art, depicting the life, customs, and industries of Southern China in the beginning of the Nineteenth Century — an interesting ethnological record of the now vanishing culture of

the Manchu period. Through the continued interest of Trustee Ayer the South Italian collections have been enriched by four magnificent earthenware wine jars from Boscoreale, together with a bronze vase from the same villa and a collection of vases, jewelry and a sarcophagus from Etruria. Mr. Ayer, during the year, has also added many important examples to the extensive collection of North American ethnology previously presented by him. A certain portion of this accession has been set aside for use in the N. W. Harris Public School Extension of Field Museum project. A very interesting and unique crown from the Marquesas Islands has been acquired by purchase. From Melbourne University has been acquired by exchange an exceedingly valuable collection of ethnological material from the native tribes of Central Australia. Because lists have not yet been received, it is impossible to state at this time the number of specimens added during the year to the Melanesian collections, resulting from the Joseph N. Field South Pacific Islands Expedition in charge of Dr. A. B. Lewis. The Department of Botany has received the usual annual additions of herbarium specimens, among which the following accessions are noteworthy: Britton & Cowell, Cuba, 53; Otto Buchtien, Bolivia, 205; Ralph W. Chaney, Michigan, 300; June A. Clark, Idaho, 211; Jesse M. Greenman, West Virginia, 387; David Griffiths, Arizona, 74; Marcus E. Jones, Utah, 211; A. Kranz, Germany, 359; Otto Kuntze, Argentine 141; Bolivia 225, Brazil 82, Chile 84, Venezuela 60; O. E. Lansing Jr., Illinois 102, Missouri 87, Wisconsin 73; Leland, Chase & Tilden, New Zealand, 167; Francis Macbride, Idaho, 305; B. Mackenson, Texas, 117; C. F. Millspaugh, Ceylon 53, Japan 88, Philippine Islands 57, Wisconsin 176; Nelson & Macbride, Idaho, 323; C. A. Purpus, Mexico, 451; Sandberg & Leiberg, Washington, 387; J. A. Shafer, Cuba, 402; Baron von Türkheim, Santo Domingo, 236; C. M. Weber, Philippine Islands, 260; F. Zuccarini, Germany, 222. W. E. Broadway, Tobago, 212. The organization (i. e. poisoning, mounting, cataloguing and installing) of the current accessions has been kept up to date and 11,078 sheets have been organized from the larger herbaria, secured by the Museum, in accordance with the following tabulation:

Herbaria	Estimated Contents.	Organized 1912.	Previously Organized
A. A. Heller	14,603	....	5,264
J. T. Rothrock	22,510	302	22,507
A. Schott	8,671	....	8,428
J. H. Shuette	15,000	....	.....
J. K. Small	21,528	229	12,943
University of Chicago . . .	45,000	10,547	23,140

With the above, and various minor accessions, the additions to the

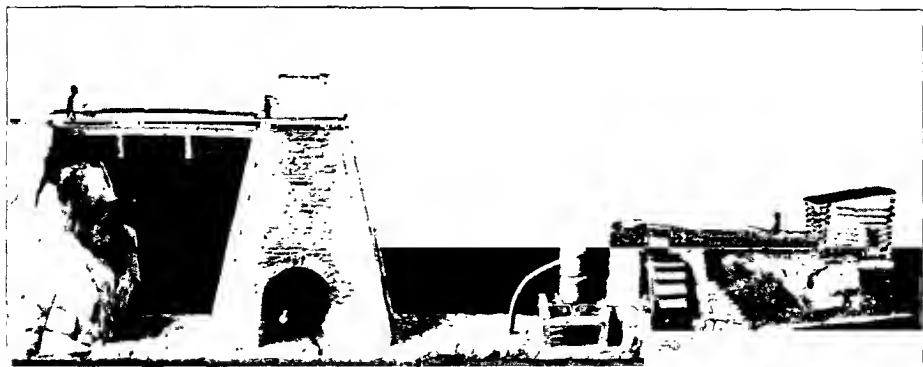
organized herbarium, during 1912, are shown in the following, geographically arranged, table which does not include those regions to which no additions have been received this year:

	Added to Herbarium 1912.	Total now in Herbarium
NORTH AMERICA (in general)	121	131
Alaska (in general)	217	528
Amakauk Island	21	21
Atka Island	1	1
Japonski Island	3	3
St. George Island	11	11
St. Paul Island	3	5
Unalaska Island	31	31
Canada (in general).	42	2,002
British Columbia	25	980
Labrador	3	167
New Brunswick	8	752
Nova Scotia	1	148
Ontario	3	575
Quebec	33	121
Vancouver Island	1	231
Yukon	2	68
Newfoundland	247	712
United States:		
Alabama	27	1,048
American Plains	1	95
Arizona	1,566	9,364
Arkansas	50	275
California	2,924	21,967
Santa Catalina Island	1	25
Colorado	2,345	10,918
Connecticut	20	319
Dakota	15	35
North Dakota	217	401
South Dakota	23	107
Delaware	276	1,463
District of Columbia	48	1,968
Florida	1,283	19,916
Florida Keys	18	564
Georgia	87	4,449
Idaho	1,403	2,882
Illinois	949	18,809
Indiana	906	5,214
Indian Territory	105	254
Iowa	151	1,460
Kansas	111	372
Kentucky	265	935
Louisiana	188	1,239
Maine	332	1,552
Maryland	54	953

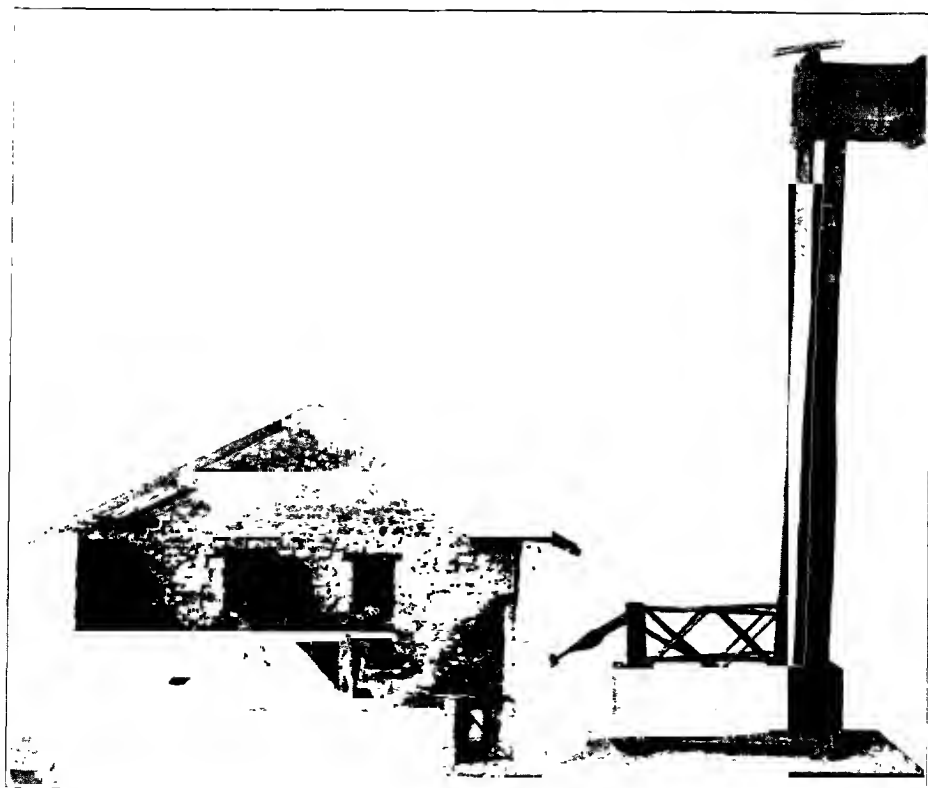
NORTH AMERICA (in general)		Added to Herbarium 1912.	Total now in Herbarium.
United States (in general)			
Massachusetts		223	2,906
Michigan		846	3,430
Minnesota		209	900
Mississippi		88	1,963
Missouri		394	2,491
Montana		363	3,507
Nebraska		79	240
Nevada		27	751
New Hampshire		195	1,358
New Jersey		317	2,423
New Mexico		177	2,672
New York		355	5,420
North Carolina		537	2,494
Ohio		61	1,536
Oklahoma		6	182
Oregon		1,596	7,524
Pacific Coast		338	706
Pennsylvania		219	9,259
Rhode Island		63	544
Rocky Mountains		85	1,378
South Carolina		42	747
Tennessee		174	1,226
Texas		1,850	8,733
Utah		637	2,698
Vermont		699	2,546
Virginia		695	2,318
Washington (State)		1,702	6,250
West Virginia		520	1,801
Wisconsin		321	1,180
Wyoming		67	854
Yellowstone National Park		117	400
CENTRAL AMERICA			
Mexico (in general)		4,192	32,434
Lower California		153	1,726
Carmen Island		18	22
Cedros Island		61	164
Guadalupe Island		34	74
San Benito Island		1	10
Campeche		1	28
Tabasco		1	5
Yucatan		27	4,671
Costa Rica		247	535
Guatemala		601	2,856
Honduras		75	340
Panama (excl. Canal Zone)		12	58
San Salvador		1	21

202 FIELD MUSEUM OF NATURAL HISTORY—REPORTS, VOL. IV.

	Added to Herbarium 1912.	Total now in Herbarium.
WEST INDIES (in general)	8	22
Bahamas		
Eleuthera	2	686
Great Bahama	1	625
New Providence	9	2,407
Barbados	1	328
Bermuda	1	644
Cuba	1,193	9,424
Guadaloupe	1	1,509
Jamaica	57	6,558
Martinique	13	615
Porto Rico	18	3,992
Saint Thomas	7	445
Santo Domingo	236	712
Tobago	212	575
Trinidad	77	465
SOUTH AMERICA (in general)	5	5
Argentina	150	974
Bolivia	430	3,534
Brazil	101	397
Chili	88	249
Colombia	1	2,420
Falkland Islands	1	3
Galapagos Island	5	10
Paraguay	41	1,442
Patagonia	1	26
Peru	108	114
Uruguay	33	160
Venezuela	28	1,061
EUROPE (in general)	9	79
Austria-Hungary	513	6,466
Belgium	2	72
Denmark	2	2
France	346	4,391
Germany	915	6,867
Great Britain		
Anglesey Island	6	6
England	333	563
Ireland	8	152
Scotland	101	471
Wales	41	70
Wight, Isle of	1	31
Greece	8	520
Italy	571	2,386
Mediterranean Islands		
Capri	2	2
Corcyra	5	5
Corfu	1	1



MODEL OF EARLY BLAST FURNACE.



MODEL OF CATALAN FORGE.

EUROPE (in general)		Added to Herbarium 1912.	Total now in Herbarium.
Mediterranean Islands (in general)			
Corsica	. . . . .	1	2
Elba	. . . . .	2	2
Ischia	. . . . .	2	45
Sardinia	. . . . .	3	5
Sicily	. . . . .	17	109
Zante	. . . . .	3	3
Norway	. . . . .	7	216
Portugal	. . . . .	1	9
Roumania	. . . . .	1	1
Russia	. . . . .	85	1,574
Spain	. . . . .	84	135
Sweden	. . . . .	36	499
Switzerland	. . . . .	309	2,343
ASIA			
Afghanistan	. . . . .	1	1
Arabia	. . . . .	1	4
Armenia	. . . . .	54	174
Asia Minor (in general)	. . . . .	2	2
Asiatic Turkey (in general)	. . . . .	12	190
Palestine	. . . . .	8	1,142
Roumelia.	. . . . .	1	1
Smyrna	. . . . .	2	2
Syria	. . . . .	2	72
Ceylon	. . . . .	56	65
China	. . . . .	47	259
India	. . . . .	86	942
Indo-China	. . . . .	3	3
Japan	. . . . .	119	220
Java	. . . . .	42	100
Philippine Islands	. . . . .	318	4,481
Siberia	. . . . .	2	410
Straits Settlements	. . . . .	12	12
Turkestan	. . . . .	6	89
Kerguelen Land	. . . . .	6	7
AFRICA (in general)		39	3,926
Abyssinia.	. . . . .	1	193
Algeria	. . . . .	16	24
Canary Islands	. . . . .	28	32
Cape Colony.	. . . . .	67	67
East Africa	. . . . .	1	1
Egypt.	. . . . .	13	22
Galeja Island	. . . . .	2	2
Kaffraria, British	. . . . .	1	1
Madagascar	. . . . .	2	11
Mauritius	. . . . .	4	8
Morocco	. . . . .	1	6
Nubia.	. . . . .	5	9
Orange Free State	. . . . .	6	8

	Added to Herbarium 1912.	Total now in Herbarium.
AFRICA (in general)		
Rodriguez Island	37	37
Saint Helena	1	1
South Africa	60	1,233
OCEANIA (in general)	9	9
Australia (in general)	82	1,919
New South Wales	71	414
North Australia	5	5
Queensland	3	19
West Australia	23	32
Friendly Islands	10	10
New Zealand	1,440	2,753
Sandwich Islands	51	452
Tahiti	86	86
Tasmania	8	190
HORTICULTURAL	23	2,009
ILLUSTRATIONS, DRAWINGS, etc., mounted as herbarium sheets	74	944

The total increase to the organized herbarium during the year amounted to 18,921 specimens. The material received for exhibition purposes during the past year proved highly gratifying both in character and amount. The principal accessions were the following: Alex. Campbell & Company, 29 examples of China teas; Prof. N. B. Ingraham, 13 Eucalyptols from California; The American Trading Company, Yokohama, 20 specimens of Japanese papers, paper materials and fibers; The Indian Museum, Calcutta, 297 ample specimens of vegetable oils, resins, gums, seeds, tans, dyes, etc.; the Botanical Garden at Peridynia, Ceylon, 23 fruits, fibers, barks and woods; the Pacific Coast Kelp Mulch Company, 9 specimens illustrating the extraction of rubber from sea weed; the Bureau of Forestry, Philippinc Islands, 22 specimens of gums, woods and fibers; C. F. Millspaugh, collections made in the Sandwich Islands, Japan, China, Philippines, Straits Settlements, Java, Burmah, India and Ceylon, consisting of 362 specimens of fruits, seeds, gums, articles fashioned from crude vegetable substances, etc. The above material serves to fill gaps in many plant families and to round out that already on hand into installable form and sequence. The most important accession received by the Department of Geology during the year and one of the most important ever received by the Department, was that of the Ward-Coonley collection of meteorites. This collection was gathered by the late Professor Henry A. Ward during a period of about twelve years of effort devoted exclusively to this work, and at the time of his death was the largest private collection of meteorites in the world. Besides material gathered directly by Professor Ward, his collection included the large private collections

of the late James R. Gregory, and Count Siemashko. The addition of this magnificent collection to the large one already possessed by the Museum gives the institution the distinction of possessing the largest collection of meteorites in the world. Nearly all known meteorites are represented, the total number of falls possessed being 650 out of a possible 700. Moreover the representation of most of the falls is large and adequate. Of the following falls the representation in the newly acquired material is larger than in any other collection: Ballinoo, Barratta, Bath Furnace, Bluff, Canyon City, Canyon Diablo, Castine, Central Missouri, Costilla Peak, Estacado, Illinois Gulch, Indareh, Luis Lopez, MacKinney, Ness County, Oakley, Pavlodar, Petersburg, Pipe Creek, Roebourne, Saint Genevieve, Surprise Springs, and Ute Pass. The weight of the combined collections is nearly double that of the Vienna collection, hitherto the largest, and exceeds it in number of falls. The large collections of the British Museum and of Paris, Berlin, Washington and New York are also considerably surpassed by the Museum collection either in weight or number of falls or both. The relation of the Museum's collection to the world's other large collections according to their latest catalogues is shown as follows:

Institution	No. of falls	Weight
Field Museum of Natural History . . .	650	7,824 kgs.
Vienna Museum, Catalogue of 1902 . . .	560	3,313 "
British Museum, Catalogue of 1908	580	5,822 "
Paris Museum, Catalogue of 1909	532	2,258 "
Berlin Museum, Catalogue of 1904	450	246 "

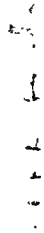
Other additions by exchange, purchase, etc. were made to the meteorite collection during the year. These included a section of the Kermichel meteorite by exchange with M. de Mauroy of Wassy, France, several hundred specimens of the Holbrook, Arizona, fall by exchange with Foote Mineral Company, three specimens by exchange with Julius Böhm, Vienna, and sections of the Hermitage Plains and Kingston meteorites by purchase. A specimen of the Kilbourne meteorite was also acquired. An important addition to the economic collections was a series of crude petroleum from 228 separate localities in Oklahoma, Texas, Wyoming, West Virginia, and other states. These petroleum for the most part had been fully analyzed, and thus form a type collection of great value. The collection was presented by the United States Geological Survey through the kindness of Dr. David T. Day. The largest specimen of mineral wax ever washed up on the Pacific Coast was presented by Mr. C. H. Marsh of Marshfield, Oregon. This wax is similar to the small pieces that have for many years been

brought by the waves to the Coast. The piece presented by Mr. Marsh weighs about twenty pounds. He also gave specimens of agate, obsidian, etc., from Oregon. Mr. Louis V. Kenkel of Seattle, Washington, presented 50 specimens of ores and minerals from important and relatively inaccessible mining districts in Alaska, and thus added completeness to the series of ores from that region. Several collections received by gift or purchase contained material of value. These included 224 specimens of fossils and 116 specimens of rocks and minerals presented by Mr. Charles Winston of Chicago, a collection of about 200 specimens of fossils, minerals, ores and one meteorite presented by Dr. H. P. Woley of Chicago, 135 specimens of invertebrate fossils from Iowa presented by Mr. A. G. Becker of Clermont, Iowa, and 236 specimens of fossils and minerals purchased from Mrs. Josie Pratten. The last named collection contained many specimens of historical interest, especially relating to early researches in the geology of Illinois. They included a number of types or supplementary types. A valuable specimen of emerald in matrix was presented by Mr. W. S. McCrea of Chicago. Mr. John H. Muir of China gave an interesting series of rocks and minerals from the interior of Tibet. These included minerals used in bread making. A series of alundum and its products presented by the Norton Company of Worcester, Massachusetts, makes a valued addition to the collection of abrasives. By exchange, about 50 specimens of valuable mineral specimens representing localities or species not hitherto possessed in the collection were received from the Foote Mineral Company. By collection about 1,500 specimens of invertebrate fossils were added. These were obtained by the Assistant Curator of Invertebrate Paleontology near Clermont, Iowa, and Little Traverse Bay, Michigan. The accessions in the Department of Zoology during the year were comparatively unimportant and limited in number, except those obtained in the field mentioned elsewhere.

EXPEDITIONS AND FIELD WORK.—The main field work of the Department of Anthropology was that of the Joseph N. Field Expedition in charge of Dr. A. B. Lewis. During the year nearly 100 cases of additional material have been received from Dr. Lewis who is now on his fourth year of this Melanesian Expedition. After a somewhat extended visit late last year to the New Hebrides, Dr. Lewis returned to Sydney in January of this year, to re-equip preparatory to spending a year on the south coast of New Guinea, the first part of the year being devoted to British New Guinea, the second to Dutch New Guinea. Dr. Lewis is now on his way home. It is not known at this time how many specimens have been acquired as a result of this expedition, but they

number many thousands and the collection forms one of the largest, most important, and most interesting ever acquired by the Museum through field work. Practically every region of Melanesia is represented. Dr. Lewis has supplemented his specimens by numerous photographs, anthropometric measurements, and photographic records. To date 277 cases have arrived at the Museum as a result of the expedition. Of these 91 have been received this year, and it is known that at least 21 cases additional are on the way. A great many of these cases exceed 10 feet in length, with other dimensions to correspond. With a view to securing as much economic material as possible for installation in the Department of Botany and to gain the co-operation of botanical institutions in the far East, the Curator began, in August, 1911, an expedition for that purpose. He visited Honolulu, where he was accorded a welcome by Dr. Wm T. Brigham of the Bernice Pauahi Bishop Museum, and collected about the city during a few hours' stop at the Island. In Japan exchange relations were established with the Imperial Botanical Institute in the Koishikawa, Tokio; the Japanese Imperial Forestry Bureau at Meguro; and arrangements made with the American Trading Company of Yokohama; many interesting specimens were secured from the city and village markets and shops. In the identification of material valuable assistance was received from Professors J. Matsumura and K. Fujii of the Botanical Institute. A few hours' stop in Shanghai added other interesting specimens from the bazaars, as did also those of Hong Kong and Canton. A nine days' stop in Manila and Los Baños resulted in the establishment of exchange relations and co-operative bases with the Philippine Bureaus of Forestry, Education, Agriculture and Science, and some 60 specimens were accumulated from the shops and markets. The longest stay was at the Botanic Gardens, Buitenzorg, Java, where the Curator was accorded every convenience and facility in the laboratories and gardens, and among the duplicate collections, as well as the valuable assistance of the Director, Dr. Königsberger and his assistant Dr. von Faber. Here Dr. Millspaugh made water color studies, photographs and formaldehyde collections of a number of tropic genera for reproduction by the Section of Modeling, as well as market and field collections amounting to 250 specimens. In his searches through the markets he was kindly assisted by Mr. Heyne of the Botanic Technological Museum. In Burmah a number of items of economic interest were secured from the bazaars at Rangoon. In Calcutta he was given carte blanche to select such material as was desired from the large surplus stock of the Botanical Department of the India Museum and thus secured over 400 specimens of seeds, oils, gums, resins, dyes, etc. of more than

ordinary interest and value. Through the kindness of Mr. I. H. Burkhill, Reporter on Economic Products, and Mr. Hooper, the Curator, as well as that of Captain Gage, Superintendent of the Botanical Garden at Sibpur and Mr. Ralph H. Pearson, Forest Economist at Dehra Dun, relations were established that will prove of great value in the future acquirement of exhibition material. In India considerable additional material was secured at Benares, Delhi, Agra, Jeypur, Bombay, Madras and Madura. At Kandy, Ceylon, co-operative relations were established with the Botanic Garden at Peridynia through the kindness of the Acting Director, Mr. R. H. Locke who has since sent in some very important and interesting specimens for installation. Returning via Europe a few days were spent in Munich in drawing out some one thousand herbarium specimens from the collection of duplicates of the older Bavarian collectors. O. E. Lansing, Jr., of the Department has continued, at odd intervals, to collect plants of the Lake Chicago Basin in Illinois and Indiana. He has also made several trips afield to secure living material for the use of the Section of Modeling; and has made a trip to Vermilion County, Illinois, and to Richland County, Wisconsin, principally to secure herbarium material for exchanges. The dendrologist, Assistant Curator Huron H. Smith, has continued his work of securing specimens of Pacific Coast trees during the past year; he has sent in a number of shipments of material; and has continued to collect herbarium specimens at each of his stations. The material is not yet organized and therefore does not appear in detail in this report. The Assistant Curator of Invertebrate Paleontology examined a number of exposures of beds of Maquoketa age in Fayette County, Iowa, and procured about one thousand specimens there. Of these specimens about 550 were brachiopods, 200 trilobites, 100 crinoids and cystids, and the balance corals, sponges, pelecypods, gastropods and cephalopods. Special attention was paid to the collecting of trilobites in the region with the result that two new species were obtained and much additional material secured which will throw light on the structure of previously known species. Two new species of crinoids were also secured. This material, taken in connection with that obtained by the trip to the same locality in 1910, affords specimens upon which the description of one new genus and eleven new species of trilobites and one new genus and four new species of crinoids and cystids will be based. Of twelve of these the Museum will possess the types. Material for re-description of six previously known species of trilobites was also obtained. Besides material of descriptive value, some good



LIFE HISTORY OF A LIVERWORT.
(*Marchantia polymorpha*)



exhibition material was obtained, including four separate slabs of trilobites. The largest of these slabs has a surface of about one square foot. Mr. A. G. Becker of Clermont, Iowa, gave valuable assistance in the work of collecting in this locality. Great progress has been made during the year in the zoological exploration of South America. Assistant Curator W. H. Osgood and Assistant M. P. Anderson conducted an arduous expedition over the Andes of northern Peru and thence across the continent by way of the Amazon River. They sailed from New Orleans January 25, crossed the Isthmus of Panama, and thence proceeded down the Pacific Coast to Peru. After a few weeks' work on the arid coast of Peru, they started inland with pack mules and gradually worked across the Andean ranges and descended to canoeing waters on the upper tributaries of the Amazon River. At this point Mr. Osgood continued rapidly down the Amazon by regular means of transportation and returned to the Museum late in October. Mr. Anderson remained to work in the little known upper Peruvian Amazon region and later entered Brazil. Mr. Becker was despatched in December to join him in that country for work in the coming year. At the date of last shipments, some of which are still in transit, over two thousand specimens had been obtained of birds and mammals of which practically all were previously unrepresented in the collections and of which doubtless many will prove when studied to be new to science. The collection is particularly valuable and representative since it includes material from regions of such varied character, the arid Pacific coast, the high Andean *paramos*, and the hot tropical Amazonian forests. During the past season the Curator made several local trips to points in southern Michigan and northern Illinois and secured a number of photographs of birds and mammals and many notes relating to migration and habits to be used in future publications. Early in January Assistant Curator Meek left for Panama to continue field work on the Biological Survey of the Canal Zone. During most of January and February he collected fishes in the salt water on both sides of the Isthmus. The latter part of February and first week in March were given to exploration of the Tuyra River which drains the southeastern portion of the Republic of Panama. The last three weeks of March collecting in salt water was continued. On April 4, Dr. Meek reached Costa Rica and collected in the streams most accessible on both sides of the Republic during the rest of the month. The Costa Rica collection contains over 2,000 specimens, representing about 60 species, 10 of which have been described as new. The Panama collection made during the past two years contains about 50,000 spec-

imens, representing in all about 600 species, practically half of which is the property of this Museum. Following is a list of the expeditions since the date of the last report:

Locality.	Collector.	Material.
South America	W. H. Osgood and M. P. Anderson	Birds and mammals.
Pacific Coast	H. H. Smith	Timbers, economic material and herbarium specimens.
Southern Florida	C. H. Carpenter	Botanical specimens.
Illinois and Michigan	C. B. Cory	Mammals, photographing and mi- gration work.
Peru, Chile, Argentine and Brazil	R. D. Salisbury	Geological specimens.
Iowa	A. W. Slocum	Invertebrate fossils.
South Pacific Islands	A. B. Lewis	Melanesian Ethnology.
California	W. Heim	Fishes.
Arizona	C. L. Owen	Hopi Ethnology and Archæology.
Illinois and Indiana	O. E. Lansing, Jr.	Herbarium specimens.
Japan, China and tropics of the Old World	C. F. Millspaugh	Economic material and herbarium specimens.

INSTALLATION, REARRANGEMENT AND PERMANENT IMPROVEMENT. — During the year more than 70 cases of material never before exhibited have been installed in the Department of Anthropology. To provide space for these cases, for work of installation, and for the arrival of cases, has necessitated much rearranging and the condensing of certain collections. Hall 45 has been repainted and refloored and is completely filled with a portion of the material of the Blackstone Chinese collection. To allow for the proper classification and cataloguing of the Chinese collection, Halls 50 and 51 have been temporarily closed to the public, and the cases condensed as much as possible to make room for worktables. The lid of the Egyptian sarcophagus has been restored and installed in what is believed to be a unique and highly satisfactory manner above the body of the sarcophagus. The most important change affecting a single collection or group of collections during the year relates to the Joseph N. Field Melanesian collection. Till recently this material, resulting from four years of expedition in the South Pacific Islands, together with an expedition of the Curator's, the Parkinson, and Voogdt collections was scattered through various halls both in the East and West Annexes. They have all been transferred to Hall 71 in the East Annex, the material being partially classified to await Dr. Lewis' arrival. Meanwhile all the unpacked material sent in by Dr. Lewis, has been grouped in Hall 72. Recent acquisitions of Kabyle and Etruscan jewelry have been temporarily installed

in Higinbotham Hall. Models of Asiatic water craft and other Asiatic ethnological material have been transferred from the large case recently demolished in Hall 39 and placed in temporary storage in Hall 49. Large specimens of Pueblo pottery, occupying the top of the above mentioned case, have been transferred to Hall 8, to await a re-adjustment of material now there stored. The great Cheyenne skin tipi, also necessarily removed from Hall 39, has been installed in Hall 45. To make Halls 46 and 47 ready for Chinese collections, has necessitated the transfer of certain collections. Over 2,000 specimens of archeological material from Calchaqui, Argentina, have been removed from Hall 46 and stored in Alcove 90 of the East Court. Several hundred Eskimo specimens have also been removed from Hall 46 and stored in special cases in Hall 4, awaiting necessary re-installation of the Eskimo material. Several hundred specimens of Mexican ethnology belonging to the Starr collection, were removed from Hall 47 and placed temporarily in standard cases in the East Court, awaiting re-installation. Owing to the urgent and immediate need of cases, two, installed with ethnologic material from Australia, but which because of the addition of new material would necessarily be re-installed, were emptied of their contents which was placed with other Australian collections awaiting re-installation. The same treatment was accorded a case of material from New Caledonia. To prepare Hall 39 for the reception of Philippine material, one old case was demolished, its contents transferred elsewhere, and four cases of Apache and one of Havasupai ethnologic material were removed to Hall 1. The Rio Grande Pueblo material, formerly occupying Hall 1, has been removed from the cases and placed in storage to await re-installation when more suitable cases are available. The cases in which this material was installed were transferred to the East Annex and turned over to the Asiatic section for the installation of Chinese material. The Eskimo material in the bases of the cases in Hall 1 has been placed with other similar material in Hall 4, as has been the small collection of Patagonian ethnology. To make room for the seven new Hopi altars reproduced with funds presented by Mr. Stanley McCormick the cases in Hall 15 have been re-arranged and condensed in order to care for certain cases transferred from Hall 17. The ethnologic material, secured as a result of the Stanley McCormick expedition of 1911, recently stored in Hall 45, has been placed in storage in Hall 16. The Philippine material collected by the Robert F. Cummings' Expedition has been installed in 45 cases during the year. Besides the contents of 6 cases, installed last year in old cases, have been re-installed in new standard cases. Of these three were Apayao, two Igorot, and one Kalinga. To make

more effective the installation of the Philippine material, the Modeler has prepared about 100 papier-maché forms for the special display of clothing of certain Philippine tribes. A special exhibit has been prepared showing the method used by the Bagobo in casting and incising brass. All of the 45 cases of Philippine material above referred to may be regarded as permanently installed, for each case has been provided with labels, photographs, and, where necessary maps. The Bagobo cases are devoted to: Household utensils, substitutes for lamps—torches, holders, etc.; riceplanters,— utensils used in gathering, storage, and preparation of rice; transportation and storage baskets, horse trappings, etc.; ceremonial articles and musical instruments; warfare and chase,— shields, knives, spear bows and arrows. bow-guns, traps and decoys; men's ornaments,— betel-nut outfits and carriers for same, working knives; casting of brass bells, rings, etc., manufacture and decoration of bracelets, warrior's turbans, pottery, weapons, and waterproof baskets; clothing showing decoration in embroidery, shell disks, and beads, decorated carrying bags; women's dress and ornaments, case showing nine complete outfits, together with ornaments and weapons from the little-known Divavaoan tribe of Central Mindanao, case of household utensils, clothing, weapons, and musical instruments used by the Tagbanua of Palawan, also specimens of native writing on bamboo tubes. The Moro cases are devoted to: Weapons,— fighting knives; weapons,— cannons, spears, shields, and coats of mail; clothing and types of cloth manufactured by this tribe; brass bowls, dishes, betel-nut outfits, etc.; horse-trappings, etc. The Bukidnon cases are devoted to: Household furnishings,— hammocks, baby cradles, torch holders, water tubes, dishes, etc.; household utensils,— corn crushers, rice mortars and other utensils for preparation of rice and other field products; transportation baskets; fishing,— nets, traps, fish-arrows, etc., manufacture and dying of mats, types; Chinese jars, inlaid storage boxes, house-carvings, toys; musical instruments, ranging from the most primitive to those carved to resemble animal forms; women's clothing and ornaments; men's clothing; betel-nut outfits, hemp coats of mail, head-hunters' ornaments and charmed sashes; warfare,— spears, shields, bows and arrows, etc.; industries,— forge work, cane press, etc., traps; ceremonial objects and house model; textile industry,— all stages in manufacture of hemp cloth. The Bila-an cases are devoted to: Betel-nut outfits and cases, weaving, etc.; woman's dress showing fine embroidery; man's dress, showing fine embroidery; spears, knives, shields, bows and arrows, blow-guns, snares; household,— manufacture of baskets, sago-maker's outfit. The Kulaman cases are devoted to: Warfare and chase; household; mats, baskets, rice

culture, etc.; cloth and clothing, showing peculiar method of decoration by oversewing the fabric prior to dyeing; two cases showing household utensils, implements and weapons of the pigmy blacks or Negritos. The Amburayan Igorot cases are devoted to: Musical instruments, long drums, gongs, etc.; fish traps, etc.; transportation; wooden and rattan boxes for fire-making outfits, etc., manufacture of same; wooden boxes, dishes, carved spoons, etc.; household utensils; copper bowls of native manufacture; clothing and manufacture of same. In the Asiatic section 22 new cases have been installed, so that it was possible to open Hall 44 last June. The Hall contains 21 cases, the material being distributed as follows: 8 cases of Han pottery, 2 of mortuary clay figures, 1 of jade, 1 of bronze implements, 1 of textiles, 1 containing tin, wood-carving, enamel, and miscellaneous; 4 of paintings; 1 illustrating wood-engraving and printing, and 1 containing a screen with inlaid feather work. The metal mirrors have been withdrawn from the North Court and permanently reinstalled, being arranged in chronological sequence, in Hall 45. Three cases, one of silver ornaments; one of coins, and one of seals and medals; and one of early Buddhist bronze figures of the Wei and T'ang periods, have just been completed. The Buddhist masks from China and Tibet have been unpacked, arranged, and catalogued, and plans have been made for their installation in the rotunda. The collection of porcelain and faience has been completely labeled and temporarily arranged in chronological order in the Wall Cases of Halls 46 and 47, awaiting permanent installation as soon as new cases are provided. The stone sculptures have been spread out in chronological arrangement on tables in the same hall, and it is now possible to survey the Chinese material in its entirety. The Tibetan material is still packed away in storage cases, but in such condition that any specimen needed can be consulted at once. The Modder has made a cast of an inscription stone after a rubbing, to be placed on the stone carving of a tortoise of the T'ang period. He has also completed casts from a number of seals, as well as from inscriptions and reliefs on metal and pottery vases. These have been used for exhibition purposes and largely aid toward grasping the scenes displayed on the reliefs of the Han pottery vases, which are laid around the shoulders in circular bands. The casts have been unfolded and allow a viewing of the designs in a continuous row. Casts of two ancient Chinese weights have been made at the request of the Director of the Deutsches Museum in Munich and sent there as a gift of the Museum. Two cases containing Japanese color-prints, acquired with funds of the Mrs. T. B. Blackstone Expedition, have been installed in Hall 56, individual explanatory legends being

printed on the mats of each sheet. The process of Japanese wood-engraving and color-printing is illustrated in comparative view with the analogous processes of China and Tibet in a case installed in Hall 44. Many specimens of ancient Japanese textiles and books illustrating costumes and designs are on exhibition in the same Hall. Besides a large amount of work which the Section of Photography normally does for this Department an especially large number of photographs have been prepared for Dr. Laufer to illustrate publications or for exhibition purposes. It is gratifying that the collection has already attracted the attention of students from abroad and has been studied by several, among whom are Dr. William Cohn and Dr. Munsterberg of Berlin, the Museum Commission sent by the City of Munich, and Mr. Lawrence Binyon of the British Museum. American students interested in the East and engaged in Museum work or intending to pursue researches in the Orient, have availed themselves of the opportunities offered by the Museum collection,—e. g., Mr. Curtis and Dr. Denmar Rose of the Boston Fine Arts Museum; Mr. Crane, Trustee of the Newark Museum; Miss K. Ball, Superintendent of Art Education of San Francisco; Mr. Whiting, Director of the Art Museum of Indianapolis; President Wheeler of California University; Dr. Barrett of the Public Museum of Milwaukee; Dr. Carus, Editor of the *Monist* and the *Open Court*, and numerous collectors. No new cases have been added to the Department of Botany though many of the old installations have been rearranged, augmented, and preparations made for the rapid installation of new cases now under construction. The case devoted to the Orange Family has been re-installed through the addition of reproduced leafy branches with one or more ripe fruits of the Pumelo or Shaddock (*Citrus decumana*) and a transverse section of the fruit; the Mandarin orange and the Tangierine (*C. nobilis*); the usual and the fingered Citron (*C. medica*) with sections of each; the rough Lemon (*C. limonum*) of the tropics; the Navel Orange (*C. aurantium*); the sweet and the sour Lime (*C. Limetta*), leaving only the Bergamot wanting to complete the representation of this family. The Custard Apple family has received the addition of a leafy branch with ripe fruit of the Bullock's Heart or Custard Apple (*Anona reticulata*); the Bamboos a reproduction of a full ripe and sprouting seed, a rarity, as the bamboos seldom perfect fruit. The botanical characters of the Buckwheat family are now represented by a complete, natural size, branch of the Sea Grape (*Coccoloba uvifera*) in full leaf, flower and fruit. The first case of the three devoted to the Madder family now contains a full size branch of the Coffee shrub in full flower and fruit as well as an enlarged flower showing its characters; a natural

size "berry" in section and a fruit enlarged to reveal its various parts; the Sapodilla family has received the addition of a natural size branch of the Sapodilla tree in full leaf and fruit, an enlarged flower cluster, and a fruit of the Star-apple with leaves; the Milkweed family has been augmented with an enlarged flower of the rosy Milkweed (*Asclepias incarnata*) showing also the method of its cross fertilization (three models); in the Arrowroot family three enlarged flowers have been modeled and installed illustrating the natural preventive measures evolved to prevent self-pollination. A branch has been added to the Pine-apple family representing the more usual mode of growth of plants of this family as aerophytes resting upon other plants, i. e. *Tillandsia recurvata* growing upon a leafy branch of the Calabash tree. The Snakeroots have received the addition of a full size reproduction of the Swan-flower vine comprising a portion of the whole plant with several leafy vine sections bearing an unexpanded flower and one, fully opened, from eight to ten inches in diameter; also a flower in section showing the peculiar provision for fertilization by insects, together with an enlarged section of the ovary and the column of essential organs. To the Rose family there has been incidentally added a reproduction of a pair of interesting hybrid apples each showing a clearly demarked half of two varieties. To the Clove family a natural size reproduction of a full flowering, leafing and fruiting branch of the Guava tree has been added, to the Arums the full fruiting head of the Indian Turnip and to the Lily family a complete flower of the wild Lily showing its characteristic organs. Attention to the representation of the multitudinous cohorts of lower plant life, the non-flowering plants, most of which require modeling through the use of the compound microscope, is now begun and the following results placed on exhibition: A natural size reproduction of a Giant Puffball, 14 inches in diameter, and a section of the same; a colony of Inky Mushrooms, in situ, comprising a "button," a full freshly expanded plant and one in the deliquescent stage dropping its spore-charged inky liquid. The Liverworts are represented through the following models: A natural size reproduction of a mass of plants of *Marchantia* in situ; an enlarged transverse section of a thallus with male branches, rhizoids, gemma buds and open cups; a longitudinal section of a thallus with female branches; a life-history group showing a female branch, in section, disclosing the archegonia, an archegonium in section showing the egg-cell, another showing a sperm-cell entering its neck below; a male branch, in section, disclosing the spermaries, and a sperm-cell — all modeled highly magnified; another life-history group representing a female branch with spore-capsules (*Sporogonia*) in situ; an embryo formed from the fertilized egg-cell, another with

its envelopes ruptured, and a third fully developed and discharging its spores; a dense cluster of spores and elaters; the germination of a spore in four stages; and the formation of a young thallus in two stages. The Horsetails (*Equisetæ*) are represented by a reproduction of a sterile shoot natural size; a fertile shoot in spore producing stage; and the beginning of a life history sequence showing, so far, a greatly enlarged section of the female "cone" and the spores in four different states of expansion of the elaters. The staff of the Section of Modeling now comprises the following artists and artisans: A modeler who is chief of the Section, an assembler, a glass worker, a colorist, and a caster and trimmer. The Section has executed a large amount of work during the past year which is embodied in 10 complete reproductions of leafing, flowering and fruiting branches each composed of about 650 separately made parts; 20 separate fruiting branch reproductions and 8 enlarged flower representations comprising an average of 5 separate models each. The following table showing the parts comprising an average "whole plant" reproduction will give an idea of the work required in these assemblages:

	Branchlets.	Leaves.	Flower parts.	Fruits.	Buds.
Coffee . . .	12	77	288	188	63
Mangrove . . .	27	359	164	25	17
Sea Grape . . .	16	98	150	216	400

The work of revision of the petroleum collection which was interrupted by the dismantling of the West Annex was resumed during the year by the Department of Geology and has been carried as near to completion as the limited space at present available will permit. The petroleums, their liquid derivatives and most of the vaselines were transferred to new, tall, oil-sample bottles in which the specimens appear to much better advantage than they did in the old style containers. These bottles have permitted a much more compact installation and thus room has been found for a large number of new specimens of crude petroleums and much material that it was previously necessary to store. The series as now exhibited consists of a large collection of petroleums of the United States, a collection of oil-bearing rocks and associated fossils, a collection of lubricating and other heavy, refined oils, a collection of vaseline and its preparations, a collection illustrating applications of paraffin, some miscellaneous petroleum products, and a quantitative collection illustrating the varied products obtained from refining crude oil. The old order of installation of the petroleums principally according to color has been abandoned and a strictly geographical arrangement substituted. The unit group of this arrangement is the oil field and each group has been provided with a large label

describing the field and in a few words and in simple language, the more important features of the oils of that field. The heavy oils and lubricating oils are grouped according to method of manufacture into reduced oils, paraffin oils, etc., and according to their uses into spindle oils, engine oils, cylinder oils, etc. Groups of kerosenes, gasolines and naphthas are not shown for obvious reasons. The few specimens of these needed to logically cover the subject of petroleum and its derivatives are represented by bottles filled with a non-freezable mixture of alcohol and water. At the time the petroleum collection was removed from the west annex plans had been made for a rather complete collection illustrating the applications of paraffin. For such part of this material as had already been prepared room has been found in the cases. The display consists of paraffins, candles and a number of articles illustrating the applications of paraffin, especially its application to articles of ordinary household use. Although as it stands this collection is rather fragmentary, completion of the paraffin exhibit as planned is barred at present by lack of space. The vaseline exhibit has been transferred from the somewhat heterogeneous lot of bottles in which it was hitherto displayed to uniform, tall, oil-sample bottles of the kind used for the crude petroleum. The collection on exhibition contains examples of the materials from which vaseline is made, vaselines of several grades, and vaseline preparations adapted to many toilet, pharmaceutical and other uses. A variety of objects in the preparation of which gasoline or kerosene has been used are also shown to illustrate the use of these materials in dyeing, painting, lacquering, and various other arts. A series of selected specimens of oils and their associated fossils is shown in sufficient number to illustrate the conditions under which the valuable deposits of petroleum occur. A complete quantitative exhibit illustrates the quantity of each product, intermediate or final, yielded by refining one barrel of petroleum. This formerly occupied several large cases but by avoiding unnecessary duplication a complete exhibit has been installed in one wall case. It has moreover been arranged in a more logical order, and thus the refining process may be followed more readily than formerly. As it now stands a barrel representing one barrel of petroleum occupies one end of the case and the products of distillation the rest of the case. The lighter oils are placed in the upper part of the case and heavier oils and solids in the lower part. Large labels by the side of each specimen explain in simple language just what the specimen is, how it is prepared and what becomes of it. Individual labels have been printed and placed for all the specimens, and also group labels wherever such labels can be used to advantage. While the whole of the material formerly exhibited

cannot be displayed at the present time, it is believed that the alterations in the method of installation are such that the educational value of the collection is greater than it was before. The collections of gold, silver and lead ores in Hall 34 which had been only temporarily reinstalled after their removal from the west annex were given careful revision. Although no great changes were made, slight alterations in the positions of over a thousand specimens were instituted so as to improve the general appearance of the installation and aid especially by displaying in as good a light as possible the important features of the individual specimens. The placing of new labels was carried out at the same time. A number of specimens from the quartz-gold and copper mines of Alaska and a few other individual specimens were added to the exhibition series in this Hall. The collections of alkalies, abrasives and allied material in Hall 31 were cleaned and more or less rearranged in such a way as to secure the best illumination. This involved in a few instances the interchange of sections of the collection, but principally was accomplished by a rather tedious placing of the individual specimens in many positions and at many angles until the best position had been found for each specimen. Considerable rearrangement of the abrasives collection was also required to make room for a recently acquired collection of artificial corundum. An Australian coal column was installed in Hall 33 and encased in glass to insure its protection. In Hall 59 the contents of two cases were rearranged and condensed in order to devote one to the exhibition exclusively of the fine series of fossil mammals collected in 1910 from the Uintah basin. The collection as now exhibited is much the most complete and representative of the mammals of the lower Uintah formation ever shown. It includes twenty-four skulls and much other skeletal material. The types of one new genus and four new species recently described by the Assistant Curator of Paleontology form a part of the series. Two models of early forms of iron-smelting furnaces were built in the Department work rooms and placed on exhibition. These models are part of a series showing the development of the blast furnace and supplement the modern blast furnace already on exhibition. One of the models represents the stone-stack cold-blast furnace as it was developed during the first half of the 19th century. It consists of a pyramidal stone furnace 8 inches square at the base and 12 inches high. The working arch at the base which faces the front of the model shows the tump and dam in use at that time. The two tuyere arches at the side show the fire-clay tuyeres entering the furnace. At the top of the furnace are shown the charging doors. To the right of the furnaces limestone cliff rises to the level of the furnace top, and



HABITAT GROUP. WHOOPING AND SANDHILL CRANES (*Grus americana*) (*Grus mexicana*)
Field-Sprague Ornithology Fund.

a roadway on the top of this bluff is continued to the furnace top by a wooden bridge on which appears a man transporting a load of ore to be fed into the furnace through the open charging doors. At the right of the model the blowing engine appears with the dam and water wheel to drive them. These engines are two wooden tubs one inch in diameter with a third of the same size above for an air reservoir. The iron piston rods are driven by a very primitive type of wooden walking-beam which in turn is operated through a shaft by a gearing upon the circumference of a water wheel. This wheel is a breast wheel 3 inches in diameter and 1 inch wide and represents upon the scale of the model, $1\frac{1}{4}$ inch to the foot, a wheel of about 12 to 15 horse power. The wheel has an iron shaft turning in iron boxes, an iron spider and wooden buckets. The dam and retaining walls are built of limestone and in part of wooden planks, while the mill race is built of wooden plank backed apparently by earth well turfed. At the extreme right of the model a small log cabin is built over the mill race. Around the furnace and blowing engines a stone-paved court is placed, while the region around the mill race and tail race to and from the wheel is a hillside covered with imitative grass, bushes and trees. The channels to and from the water wheel contain a liquid resembling water. The water wheel is very carefully balanced and the journals and bearings so carefully constructed that when the "water" is allowed to run over the dam the wheel can turn and operate the blowing engines. In operating, a concealed pump takes the water from the tail race and delivers it to the upper level so that whenever the pump runs, the water wheel turns and operates the blowing engines. The slight power required for this purpose is, however, not available in the present building. The second model built and put on exhibition represents a Catalian Forge as it was operated at the close of the 18th century. This model is 30 inches long and 14 inches high, and is upon a scale of $\frac{1}{2}$ inch to the foot. It consists of a building, a forge, a hammer and a blowing device. Of the building three stone walls are shown and rather elaborate roof timbers. The forge, but little more elaborate than a blacksmith's fire, occupies a space of $13\frac{1}{4}$ by 2 inches inside the building and against one wall. The rest of the space inside the walls is nearly filled by a great wooden hammer and its iron-capped stone anvil. The hammer consists of a wooden beam pivoted at its center and movable by a lifting and tripping device operated by a water wheel not shown. On the opposite end is a hatchet-shaped iron head. Outside the building is shown a trompe, a water-actuated device for producing a blast of air to force combustion in the forge. As here shown the trompe consists of a device fed by a wooden canal leading water from a brook at a high

level. From the bottom of this canal two hollow logs drop vertically to a wind chest in which air entrapped by the water falling through the hollow logs is collected. From this wind chest the air is conducted to the forge by hollow logs, leather and iron pipe, and a sheet copper nozzle or tuyere. In the laboratory of vertebrate paleontology attention has been chiefly given to preparing the series of Uintah fossil mammals collected in 1910. This series has now been practically all prepared. The following specimens were worked out during the year: Two skulls and one lower jaw of the low-ground ungulate *Metarhinus riparius*; one skull of the closely allied *Metarhinus cristatus*; two skulls and one nearly complete skeleton of the large river titanotheres *Dolichorhinus longiceps*; a skull of the new species *Mesatirhinus superior*; a skull of the new genus *Rhadinorhinus*; one skull and two pairs of lower jaws of the early rhinoceros *Amynodon*; an incomplete skull of the great horned amblypod *Eobasileus*; one of the nearly allied *Uintatherium*; two lower jaws of the small cursorial mammal *Triplopus*; an incomplete skull of the archaic and little known *Stylinodon*; and a large and well-preserved skull of the broad-headed *Crocodylus*. All of these skulls or skeletal portions where desirable have been mounted with metal supports on standard bases with the exception of the skeleton of *Dolichorhinus* which was mounted in half relief in plaster preparatory to installing it in a special floor case now in process of construction. The specimens thus prepared and those of the same region worked out previously afforded the Assistant Curator of Paleontology material upon which a description of the fossil-bearing horizons of the Uintah formations and a description of a new subfamily, one new genus and four new specimens of titanotheres were prepared and published during the year. Opportunity was also found for preparation in the laboratory of vertebrate paleontology of some additional material collected on previous expeditions. This included among material collected by the expedition of 1906, a complete skeleton and additional skull of *Stenohiber barbouri*, two skulls of *Pleurolicus leptophrys* and portions of skeletons of allied species, and from material collected in 1905 a skeleton of *Merycoidodon gracilis* and partial skeletons or skulls of *Ischyromys cristatus*, *Aceratherium* sp. and *Protoceras celer*. Work upon the study series of the mineral collection was carried on at intervals as opportunity could be found and the groups of carbonates and oxides were fully rearranged. Individual trays were provided for the specimens and they were labeled and grouped according to species and localities. The chemical laboratory with apparatus and equipment was moved from Jefferson Avenue to Lake Avenue during the year. The new quarters occupied contain 570 square feet of well-lighted space and are provided with water,

electricity, compressed air and steam. The space is divided into two rooms of about equal size and it has thus been possible to install the hood and furnace in one room and the balances and reagents in another. The hood has been provided with a sink and a 10-inch draft pipe. A Weisnegg furnace 7 inches by 4 inches by 3 inches provided with gas and compressed air furnishes sufficient heat for ordinary ignitions and minor assays. Draft for this purpose is provided by a 3-inch pipe surrounded by an 8-inch pipe, open at both ends for prevention of overheating. A blowpipe desk and small still for distilling water are installed in the same room with the hood and furnace. With the facilities afforded some quantitative analyses have been made during the year and many qualitative ones. The quantitative analyses included one of a Chinese iron, two of Chinese glazes and a pottery body. In addition to chemical work it has been found necessary owing to lack of space in the Museum building to carry on some mechanical work in the laboratory. The two blast furnace models were built there and some of the work of preparing the petroleum collection performed. In the Department of Zoology a small number of storage cans have been installed. Space for this purpose is becoming limited and incoming collections are cared for with increasing difficulty. Arrangements are being made for storage of skulls of large mammals in discarded exhibition cases and in various ways. Temporary and more or less inconvenient methods are necessary to maintain the collection so that valuable material may be safe and reasonably accessible. The skin dresser has been occupied during the year with skins requiring special preparatory to mounting, among which were certain large skins, such as rhinoceros and hippopotamus, which it had not heretofore been possible to remove from pickle. Four large habitat groups of American birds produced under the Field-Sprague Ornithology Fund have been completed and successfully installed in a handsome quadripartite case of the style previously used for such exhibits. The principal birds shown are (1) the Northern Loon, (2) the Great Blue Heron, (3) the Whooping and Sandhill Cranes, and (4) the Golden Eagle. These groups are, without doubt, better in workmanship and reproduction of natural conditions of environment than any previously produced. They are all of the highest class, but the group of whooping cranes is especially interesting, not only from the beauty of its accessories, but also on account of the rarity of the birds which are practically on the verge of extinction. In the Golden Eagle group the nest contains the eggs of the species, but they will ultimately be replaced by a pair of "nestling" birds. Another large bird group is well toward completion showing a number of interesting pelagic species which nest on Laysan

Island, in the mid-Pacific Ocean. The material for this group was obtained through co-operation with the University of Iowa and it will include a striking background painted from original sketches by artist Corwin who accompanied the Iowa expedition. In addition to work on habitat groups, the systematic collection of mounted birds in Hall 26 was installed in new cases and entirely relabeled. Two important mammal groups, both with painted backgrounds, have been completed during the year. These are the group of Sonoran Grizzly Bears and the Beaver group. The scene represented in the Beaver group is that of woodland and lake in the practically primeval forest on the estate of Mr. Cyrus H. McCormick (through whose courtesy the specimens were secured) near Champion, Michigan, where the material for the group was obtained. A group of African Buffalo consisting of five individuals is being prepared for the Museum by Mr. Carel E. Akeley. Work on a group of American Bison has commenced and other groups of birds and mammals have been planned. Owing to the large amount of time spent on group work, additions to the systematic series of birds and mammals have been confined to some 30 birds and three mammals. Among the latter is an interesting marsupial, the Banded Australian Anteater *Myrmecobius fasciatus*. Mr. Heim, the Museum taxidermist in California, has mounted during the year 128 fishes. He also reports having in preparation 43 additional specimens. Taxidermist Heim has also mounted a crab and crawfish group for a case 6' x 2½' and has secured the necessary accessory material. One shark or sawfish 13 feet in length and several fishes more than 3 feet in length are included in this group. In some cases there are from 6 to 10 examples of one species intended to be used later for groups. The assistant in the Division of Entomology has given considerable time during the year to making life-history groups of insects, three of which have been completed and placed on exhibition. The groups so far completed, as well as those under way, with one exception, represent local forms of the order embracing the butterflies and moths. They are of interest primarily because they illustrate the various stages in the development of an insect having a complete metamorphosis. In the Division of Osteology 500 skulls were cleaned for the Division of Mammalogy; 27 skeletons cleaned for the unmounted collection of comparative osteology; 4 skeletons repaired and remounted; 5 skeletons mounted for the Systematic collection of osteology and 5 skulls cleaned and mounted for the collection of craniology.

PRINTING.—The Printing Office shows unusually good results. It is satisfactory to report that not only has there been an increase in the number of labels printed, and all accumulated copy treated, but the

stage has now been reached where it is possible to keep up with incoming work. During the year the following work has been accomplished:

	Labels.	Other Impressions .
Department of Anthropology	5,645	.....
Department of Botany	1,034	32,135
Department of Geology	5,528	5,350
Department of Zoology	1,068	29,100
General . . . . .	...	77,062
Library . . . . .	...	22,000

PHOTOGRAPHY AND ILLUSTRATION.—The following table gives the result of the operations performed in this important Division:

	Negatives.	Prints.	Lantern slides.	Enlargements.	Negatives developed for field expeditions.	Photomicrographs.	Lumiere autochrome color plates.
Director's Office	1	86	..	..	12	..	..
Department of Anthro- pology	328	4,063	84	..	56	..	..
Department of Botany	93	1,452	175	23	12	5	4
Department of Geology	59	186	43	..	..	..	..
Department of Zoology	115	625	78	..	128	..	..
Distribution . . . . .	..	50	..	..	..	..	..
Gift. . . . .	..	174	21	..	..	..	..
Sale. . . . .	..	92	17	2	..	..	..
Totals	596	6,728	418	25	208	5	4

ATTENDANCE — The actual attendance for 1912 was approximately 15,000 more than the previous year. It is encouraging also to report a sharp increase in the attendance of school children and students. The following is a gratifying list of the school and university classes (twenty pupils or more) that visited the Museum during the year:

Schools and Locations	Teachers	Pupils.
Carter Practice — Sixty-first Street and Wabash Avenue	3	43
Addison Normal — Addison, Illinois	1	26
University Elementary — Fifty-ninth Street and Monroe Avenue	3	36
Thornton Township High — Harvey, Illinois	1	45
Thornton Township High — Harvey, Illinois	1	42
Lewis Institute — 1955 West Madison Street	1	32
Paul Revere — Thirteenth Place and Throop Street . . . . .	..	40
University Elementary — Fifty-ninth Street and Monroe Street	4	20
West Chicago High — West Chicago, Illinois	1	22
Northern Teachers' Association	101	..
University of Chicago — Chicago, Illinois . . . . .	..	22
Ray — Fifty-seventh Street and Monroe Avenue	1	21
Northern Teachers' Association	140	..
University of Chicago — Chicago, Illinois	2	38

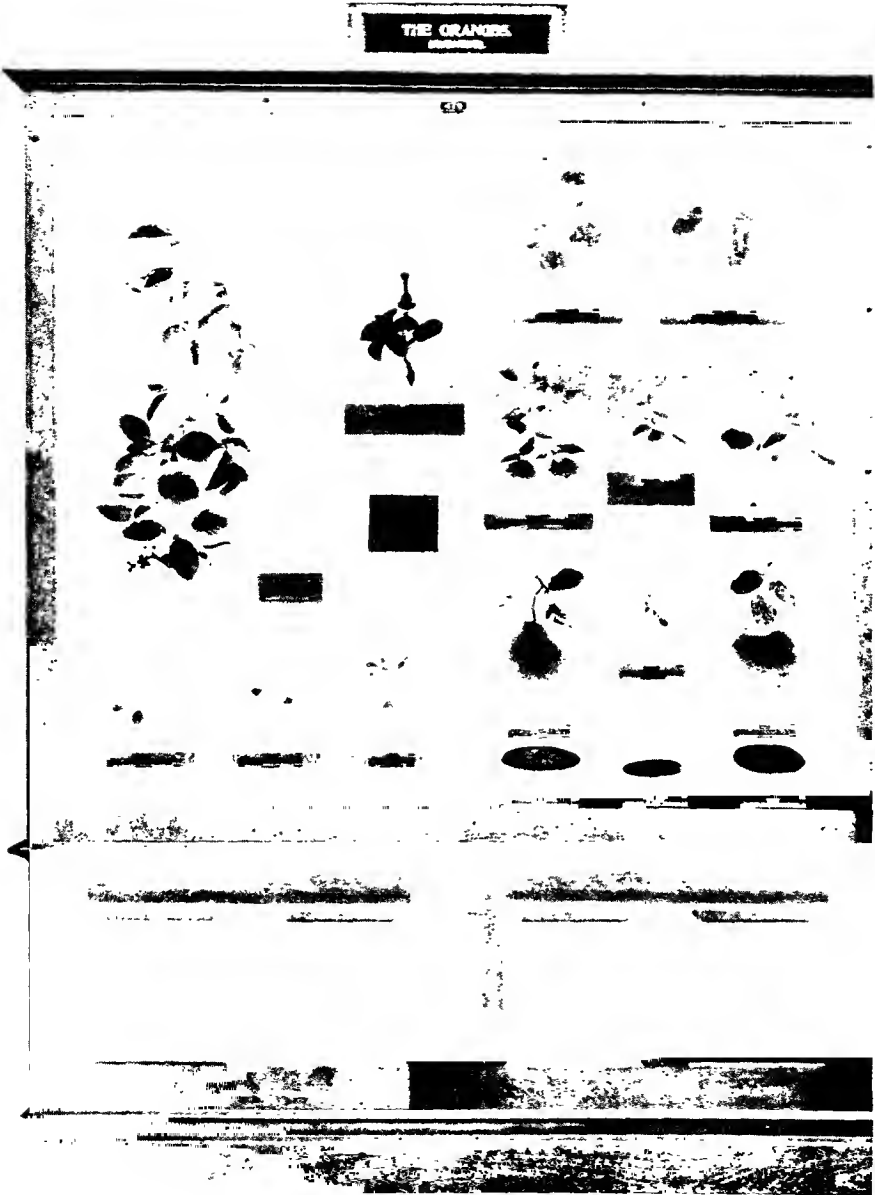
Schools and Locations	Teachers.	Pupils
Canadian Teachers' Association	42	
Hinsdale — Hinsdale, Illinois	6	20
Parker High — 330 Webster Avenue	1	22
University of Chicago — Chicago, Illinois		31
Parker High — 330 Webster Avenue	1	22
Drummond — Clybourn Place and North Lincoln Street	3	55
Addison Normal — Addison, Illinois	1	26
New Trier High — Winnetka, Illinois	2	54
Lyons Township High — La Grange, Illinois	1	20
Hyland Park — Hyland Park, Illinois	8	28
Chicago Academy of Fine Arts — 6 East Madison Street	1	90
Parker High — 330 Webster Avenue	1	22
Ray — Fifty-seventh Street and Monroe Avenue	2	45
Parker High — 330 Webster Avenue	1	20
University of Chicago — Chicago, Illinois		40
University Elementary — Fifty-ninth Street and Monroe Avenue	3	23
Waller High — Orchard and Center Streets	1	27
McKinley High — W. Adams Street corner Hoyne Avenue	2	45
University of Chicago — Chicago, Illinois		40
Blue Island — Blue Island, Illinois	3	22
Libby Open-Air School	1	20
Girton — Winnetka, Illinois	3	28
Hyde Park High — Fifty-seventh Street and Kimbark Avenue	1	26
University of Chicago — Chicago, Illinois		21
Hyland Park — Hyland Park, Illinois	7	70
Hyde Park High — Fifty-seventh Street and Kimbark Avenue	1	37
Ray — Fifty-seventh Street and Monroe Avenue	2	30
Parker High — 330 Webster Avenue	1	32
Drake — Twenty-sixth Street and Calumet Avenue	1	37
Chase — Point Place and Cornelia Court	1	35
Hyde Park High — Fifty-seventh Street and Kimbark Avenue	2	43
Hyde Park High — Fifty-seventh Street and Kimbark Avenue	1	37
Arthur A. Libby — Fifty-third and Loomis Streets		28
Chicago Academy of Fine Arts — 6 East Madison Street	1	24
University Elementary — Fifty-ninth Street and Monroe Avenue	1	22
Goodrich — Sangamon and Taylor Streets	2	37
University Elementary — Fifty-ninth Street and Monroe Avenue	1	20
University of Chicago — Chicago, Illinois		24
Wendell Phillips High — Thirty-ninth Street and Prairie Avenue	1	20
Carter Practice — Sixty-first Street and Wabash Avenue	2	30
Holden — Thirty-first and Loomis Streets	1	35
McKinley High — W. Adams Street corner Hoyne Avenue	2	30
St. Andrews — 3613 South Wood Street	4	49
Mooly Bible Institute — 153 Institute Place		42
Englewood High — Sixty-second Street and Stewart Avenue	2	212
Raymond — Thirty-sixth Place and Wabash Avenue	2	95
University Elementary — Fifty-ninth Street and Monroe Avenue	3	20
Ray — Fifty-seventh Street and Monroe Avenue	2	30
Wendell Phillips High — Thirty-ninth Street and Prairie Avenue		40

Schools and Locations	Teachers	Pupils
John Marshall High — Adams Street between Spaulding and Kedzie Avenues	1	20
Blue Island — Blue Island, Illinois	4	25
Wendell Phillips High — Thirty-ninth Street and Prairie Avenue	1	52
Hyde Park High — Fifty-seventh Street and Kimbark Avenue	2	45
University of Chicago — Chicago, Illinois		25
Wilmette — Wilmette, Illinois	2	47
Seglitz Park — Blue Island, Illinois	2	27
Chicago Academy of Fine Arts — 6 East Madison Street	1	75
University of Chicago — Chicago, Illinois		25
East Chicago High — East Chicago, Illinois	2	47
Greenwood — Blue Island, Illinois	3	27
Farragut — Twenty-third Street and Spaulding Avenue	2	22
University of Chicago — Chicago, Illinois		30
Lincoln — Blue Island, Illinois	2	50
Goodrich — Sangamon and Taylor Streets	2	75
Perkins Bass — Sixty-sixth and May Streets	1	44
Willard — Forty-ninth Street and St. Lawrence Avenue	1	32
Goodrich — Sangamon and Taylor Streets	2	85
University of Chicago — Chicago, Illinois		24
Burr — Wabansia and North Ashland Avenues	1	40
St. Brendan — 1417 West Sixty-seventh Street	2	60
Harvey — Harvey, Illinois	3	75
St. John's — 308 West Twenty-fifth Street	1	84
Blue Island — Blue Island, Illinois	5	132
Seward — Forty-sixth Street and Hermitage Avenue	2	32
Seymour — Blue Island, Illinois	3	135
Darwin — Edgewood Avenue and Catalpa Court	2	40
Sawyer Avenue — Blue Island, Illinois	1	35
Wm. H. Ryder — Eighty-ninth Street and Lowe Avenue	1	35
Kenwood — Fiftieth Street and Lake Avenue	1	40
G. M. Pullman — One Hundred and Thirteenth Street and Morse Avenue	2	70
Komensky — Throop and Twentieth Streets	1	25
J. N. Thorpe — Eighty-ninth Street and Superior Avenue	2	45
University of Chicago — Chicago, Illinois		35
West Hammond — West Hammond, Illinois	4	93
St. Charles — St. Charles, Illinois	5	30
University of Chicago — Chicago, Illinois		32
University of Chicago — Chicago, Illinois		22
University of Chicago — Chicago, Illinois		25
Holden Vacation — Thirty-first and Loomis Streets	35	412
Greene Vacation — Thirty-sixth and Paulina Streets	11	180
Jefferson Park Summer — Elburn Avenue and Laflin Street	5	54
McCormick Vacation — Twenty-seventh Street and Sawyer Avenue	26	591
University of Chicago — Chicago, Illinois		24
University of Chicago — Chicago, Illinois		25
Moody Bible Institute — 153 Institute Place		25

Schools and Locations	Teachers.	Pupils.
University of Chicago — Chicago, Illinois		29
Harrison Vacation — Twenty-third Street and Princeton Avenue	13	216
Libby Open Air — Loomis and Fifty-third Streets	5	35
Forrestville — Forty-fifth Street and St. Lawrence Avenue	3	122
Washington — North Morgan Street and Grand Avenue	3	59
Wendell Phillips High — Thirty-ninth Street and Prairie Avenue		25
Kenwood — Fiftieth Street and Lake Avenue	3	21
Bethany Bible Institute — 3435 West Van Buren Street.		28
Lake High — West Forty-seventh Place and Union Avenue.	1	45
Lewis Institute — 1955 West Madison Street	1	24
University Elementary — Fifty-ninth Street and Monroe Avenue	1	21
Bethany Bible Institute — 3435 West Van Buren Street.		20
Chicago Evangelistic Institute — 1754 Washington Boulevard	3	38
University Elementary — Fifty-ninth Street and Monroe Avenue	1	28
Chicago Latin — 18 East Division Street	4	25
Harper — Sixty-fifth and Wood Streets.	2	87
Evanston — Evanston, Illinois	1	25
Gladstone — Robey Street and Washburne Avenue	4	102
Crane Technical High — 2246 West Van Buren Street	1	21
University of Chicago — Chicago, Illinois	1	41
Lincoln — Kemper Place and Hamilton Court	4	50
University of Chicago — Chicago, Illinois	1	21
University of Chicago — Chicago, Illinois	1	41
McKinley High — W. Adams Street corner Hoyne Avenue	1	25

Herewith are also submitted financial statement, list of accessions, names of members, etc.

FREDERICK J. V. SKIFF, *Director.*



AURANTIACEAE CITRUS FAMILY.

FINANCIAL STATEMENT

RECEIPTS AND DISBURSEMENTS

January 1, 1912 to December 31, 1912

RECEIPTS

Cash in Treasurer's hands, December 31, 1911	\$30,218.78
Petty Cash on hand, December 31, 1911	739.95
Dues of Annual Members	1,310.00
Life Members	2,500.00
Life Memberships Investment Income	179.24
Admissions and Check Rooms	5,933.15
Sale of Guides	260.50
South Park Commissioners	15,000.00
Interest on Investments and Bank Balances	34,602.80
Field Endowment Income	136,500.00
Field Endowment Sinking Fund	500.00
Field Endowment Sinking Fund Income	100.00
Sundry Receipts and Refunds	2,159.33
Sundry Sales	53.72
Joseph N. Field South Pacific Islands Fund Investment Income	86.11
Joseph N. Field South Pacific Islands Fund Investment retired	5,000.00
Field-Sprague Ornithology Fund	600.00
Stanley McCormick Hopi Fund	1,236.98
Huntington W. Jackson Library Fund	40.00
Mrs. T. B. Blackstone Fund	3,165.19
R. F. Cummings Philippine Fund	688.32
Special Donation — Tuesday Art and Travel Club	600.00
New Exhibition Cases Fund Investments Income	6,426.61
New Exhibition Cases Fund Investment retired	13,500.00
Sale of Real Estate	5,000.00
General Fund — Mortgages retired	13,500.00
	<hr/>
	\$279,900 68

DISBURSEMENTS			
Salaries		\$96,939	42
Guard Service		13,283	23
Janitor Service		7,377	14
Fire Protection		4,071	00
Heat and Light —			
Wages	\$4,009	66	
Fuel	7,369	61	
Supplies, Gas, etc.	2,397	74	13,777 01
Repairs and Alterations —			
Wages of Carpenters, Painters, Roofers, etc.	\$10,742	02	
Material used — paints, oils, glass, lumber, plaster, etc.	1,109	56	11,851 58
Furniture and Fixtures			15,059 54
The Library —			
Books and Periodicals	\$2,195	09	
Binding	810	38	
Sundries	46	30	3,051 77
Sections of Printing and Photography			1,547 86
Collections, etc., purchased			28,702 63
Departmental Expenses			5,912 04
Expeditions			5,353 04
Publications			4,913 95
General Expense —			
Freight, Expressage and Teaming	\$4,578	43	
Stationery, Postage, Telephone, Engraving	1,419	01	
Northern Trust Company, Custodian Fee	357	63	
Lecture Course Expenses	765	10	
Sundries	2,105	58	9,225.75
Field-Sprague Ornithology Fund			515 60
Joseph N. Field South Pacific Islands Fund			5,005 10
R. F. Cummings Philippine Fund			805.91
Stanley McCormick Hopi Fund			1,867.28
Mrs. T. B. Blackstone Fund			2,865.19
Homer E. Sargent Fund			12.19
New Exhibition Cases Fund			5,881 01
			<hr/> \$238,018.24
In Treasurer's hands, December 31, 1912	\$8,342	10	
Petty Cash on hand, December 31, 1912	739	95	
Byron L. Smith, Treasurer, Endowment Sinking Fund	500	00	
New Exhibition Cases Fund Investments	12,000	00	
New Exhibition Cases Fund Suspense	1,829	24	
N. W. Harris Public School Extension Fund Suspense	171	15	
Life Memberships Investment	5,500	00	
General Fund Investments	12,800	00	41,882 44
			<hr/> \$279,900 68

ATTENDANCE AND RECEIPTS FROM JANUARY 1 TO DECEMBER 31, 1912

ATTENDANCE.

Paid Attendance —		
Adults	20,599	
Children	2,289	22,888
Free Admission on Pay Days —		
School Children	6,050	
Students	4,018	
Teachers	1,010	
Members: Corporate	25	
Annual	57	
Life	7	
Officers' Families	77	
Special	123	
Press	19	11,386
Admissions on Free Days —		
Saturdays	41,796	
Sundays	138,443	180,239
Total Attendance		214,513
Highest Attendance on any one day (August 4, 1912)		6,757
Highest Paid Attendance on any one day (September 2, 1912)		585
Average Daily Admissions (364 days)		589
Average Paid Admissions (260 days)		88

RECEIPTS.

Guides sold — 1,042 at 25 cents each	\$ 260.50
Articles checked — 11,090 at 5 cents each	554.50
Admissions	5,378.65
	\$6,193.65

ACCESSIONS

DEPARTMENT OF ANTHROPOLOGY.

(ACCESSIONS ARE BY GIFT UNLESS OTHERWISE DESIGNATED.)

AYER, E. E., Chicago.

Ethnological material — North America.

BAKER, C. H., JR., Chicago.

Ethnological material — Japan and South Pacific Islands.

BLACKSTONE, MRS. T. B., Chicago.

Ethnological material — Tibet.

Ancient Chinese pottery — Honan Province, China.

DE YOUNG, M. H., San Francisco, California.

Lamanistic drum of portions of two skulls — Tibet.

ETHERIDGE, R., Melbourne, Australia.

Ethnological material — Australia (exchange).

FIELD, JOSEPH N., Manchester, England. South Pacific Islands Fund.

General ethnological collection — Melanesia (Collected by A. B. Lewis).

FIELD MUSEUM OF NATURAL HISTORY.

Purchases:

Silk tapestry with figures representing Buddhist priests and acolytes — China.

Collection of Etruscan jars, bronze vase, Etruscan sarcophagus and wine jars — Italy.

Etruscan jewelry — Rome, Italy.

Pike-like tool of stone — Michigan.

Buffalo robe with painted ornamentations on one side.

Ingot of Chinese steel of Ming Dynasty — China.

Large grooved axe of hematite — Keokuk County, Iowa.

Crown of tortoise shell, human bones, etc., ear ornaments, miniature god in stone, tubular stone bead — Marquesas Islands.

Album in red lacquered binding and two vases of iron — China and Japan.

HILL, MRS. D. J.

Gold bracelet — Northwest coast, United States.

LAGERQUIST, REV. A. W., Chicago.

Four Chinese documents and two Cash bills — China.

SARGENT, HOMER E., Chicago.

Ethnological specimens — British Columbia.

SKINNER, GARDNER M., Royal Centre, Indiana.

Axes, hammers, pestles, celts, stone balls, etc. — Ohio and Indiana.

STAFFORD, REV. S. M., Oklahoma City, Oklahoma.

Clay mold of miniature human face — Mexico.

TUESDAY ART AND TRAVEL CLUB OF CHICAGO.

Two Chinese scroll paintings — Peking, China.

WOLEY, DR. H. P., Chicago.

Two arrow heads, two pipes and two celts.

DEPARTMENT OF BOTANY.

(ACCESSIONS ARE BY GIFT UNLESS OTHERWISE DESIGNATED.)

ARNOLD ARBORETUM, Jamaica Plain, Massachusetts.

134 herbarium specimens — United States and Canada (exchange).

ARTHUR, J. C., Lafayette, Indiana.

1 herbarium specimen — Nordeshof, North Dakota.

BEARDSLEY, WALTER H., Chicago.

1 photograph of *Aristolochia grandiflora* — Chicago.

BOTANIC GARDENS, Sebpur, Calcutta, India.

1 specimen fruits of *Melocanna bambusoides Trin.* — India.

1 specimen seeds of Bamboo — India.

BOTANIC GARDENS, Sydney, Australia.

102 herbarium specimens — Australia (exchange).

BROOKS, F. E., French Creek, West Virginia.

2 herbarium specimens — West Virginia.

BRUMBACK, MISS FLORENCE M., Waukegan, Illinois.

herbarium specimens — Colorado.

CAMPBELL, ALEXANDER & CO., Shanghai, China.

29 specimens China Teas — China.

CHAMBERLAIN, C. J., Chicago.

1 specimen fruit *Encephalartos Allensteinii* in glycerin — South Africa.

4 herbarium specimens — Africa and Australia.

CHANEY, RALPH W., Chicago.

300 herbarium specimens — Michigan.

43 herbarium and economic specimens — Colorado.

COULTER, J. M., Chicago.

3 herbarium specimens — Mexico and New Mexico.

2 photographs of *Quercus Alexanderi* — Michigan.

CROSBY, MISS GRACE, Chicago.

1 herbarium specimen — Illinois.

DAHLGREN, B. E., Chicago.

1 specimen *Fatsia papyrifera* — Postal Cards — Chicago Market.

DEANE, WALTER, Cambridge, Massachusetts.

22 herbarium specimens — United States.

DORME, E. V. G., Brampton, Canada.

1 specimen leaves of *Leucadendron argenteum* — St. Helena Island.

EIKENBERRY, WILLIAM LEWIS, Chicago.

88 herbarium specimens — Idaho, Wyoming and Yellowstone National Park.

FIELD MUSEUM OF NATURAL HISTORY.

Collected by C. F. Millspaugh:

29 herbarium specimens.

Collected by O. E. Lansing, Jr.:

63 herbarium specimens — Golf, Illinois.

- 12 herbarium specimens — Gary, Indiana.
- 415 herbarium specimens — Illinois.
- 42 herbarium specimens — Indiana.
- 3 herbarium specimens — Indiana.
- Ginkgo biloba* — branch, and *Diospyros Virginiana* — fruiting branch — Indiana.

Collected by C. F. Millspaugh:

- 63 herbarium specimens — Arizona and New Mexico.
- 13 herbarium specimens — California.
- 32 herbarium specimens — Oahu, Sandwich Islands.
- 15 herbarium specimens — Kamakura and Tokyo, Japan.
- 72 herbarium specimens — Japan.
- 8 economic specimens — Kyoto, Japan.
- 15 economic specimens — Japan, China and Sandwich Islands.
- 3 economic specimens — Philippine Islands.
- 4 economic specimens — Philippine Islands.
- 44 herbarium specimens — China and Japan.
- 2 economic specimens — Straits Settlements.
- 2 specimens fruits and seeds of *Hevea* — Straits Settlements.
- 3 economic specimens — India and Singapore.
- 57 herbarium specimens — Philippine Islands.
- 52 herbarium specimens — India and Java.
- 1 specimen old amber beads — Bremen Market.
- 1 economic specimen — Sicily.
- 220 economic specimens — Java.
- 56 herbarium and economic specimens and water color studies — Java and Straits Settlements.
- 53 herbarium specimens — Ceylon.
- 68 economic specimens — Ceylon, India, Japan and Java.

Collected by H. H. Smith:

- 24 herbarium and economic specimens — Washington.
- herbarium specimens and dry fruits.
- herbarium specimens.
- 16 specimens tree trunks — California.
- economic specimens — California.
- herbarium and economic specimens — California.
- herbarium and economic specimens and dry fruits — California.
- 14 economic specimens — California.
- 3 economic specimens — California.
- 1 herbarium specimen — California.
- 2 specimens *Pinus monophylla* — gum, and *Juglans California* — nuts — California and Nevada.

Purchases:

- 20 economic specimens — Japan.
- 3 Bikaner Lacquer Vases — India.
- herbarium specimens.
- 213 herbarium and economic specimens — Tobago, West Indies.
- 22 economic specimens — Philippine Islands.
- 112 herbarium specimens — Illinois and Texas.
- 1 citron



FOSSIL TITANOTHERES FROM UTAH EOCENE.
Collected by Museum Expedition of 1910.

- 867 herbarium specimens — Michigan.
- 42 specimens — steps in lacquer process — Japan.
- 2 specimens — Oil of Lemon and Citric Acid — Sicily.
herbarium of the late J. H. Schuette.
- 252 herbarium specimens — Society Islands and New Zealand.
- 451 herbarium specimens — Mexico.
- 839 herbarium specimens — Idaho.
- 236 herbarium specimens — Santo Domingo.
- 260 herbarium specimens — Philippine Islands.
- 102 herbarium specimens — Bolivia.
- 103 herbarium specimens — Bolivia.
- Modeled by B. E. Dahlgren:
 - 1 fruiting cluster of *Arisaema triphyllum* L.— Illinois.
fruiting branch and enlarged flower of *Achras Sapota* and fruit of
Chrysophyllum Cainito — Jamaica.
 - 1 *Aloe vera*, whole plant — Jamaica.
 - 6 models, *Pyrus Malus*, *Psidium Guajava*, *Lycoperdon giganteum* (whole
and section), *Coprinus comatus* and *Asclepias incarnata*.
 - 1 *Citrus nobilis*, Tangierine.
 - 13 models of Citrus fruits.
 - 2 models, *Thalia dealbata*, enlarged flower, and *Tillandsia recurvata*,
group — Jamaica.
 - 3 models, *Chrysophyllum Cainito*, sections— Jamaica.
 - 6 models, *Marchantia polymorpha* and *Equisetum arvense*.
 - 1 model of Sea Grape.
 - 2 models, *Anona squamosa* — Jamaica, and *Melocanna bambusoides* —
India.
 - 1 model of *Coffea Arabica* enlarged flower — Jamaica.
 - 1 model of *Coffea Arabica* — branch.
 - 2 models, *Equisetum arvense* and *Coffea Arabica*.
 - 1 model, *Lilium umbellatum* Pursh.
 - 1 model of *Psidium Guajava* — branch.
- GANO, MISS LAURA, Chicago.
 - 1 herbarium specimen — Florida.
- GOVERNMENT MUSEUM, Madras, India.
 - 2 herbarium and 5 economic specimens — India.
- GRAY HERBARIUM, Cambridge, Massachusetts.
 - 1 herbarium specimen — Cuba.
 - 14 fragments of types and authentic specimens (exchange).
 - 387 herbarium specimens (exchange).
- GREENE, E. L., Washington, D. C.
 - 12 herbarium specimens — West Virginia.
- GREENMAN, J. M., Chicago.
 - 2 Plant Illustrations.
 - 1 herbarium specimen — Michigan.
 - 22 Plant Descriptions.
 - 1 herbarium specimen — Oklahoma.
 - 1 engraving of *Newcastlia apodistra* F. M.— Australia.
- HAUPT, ARTHUR W., Chicago.
 - 15 herbarium specimens — North Dakota, North Carolina and Oregon.

- HEATH, J. R., Carpinteria, California.
1 fruiting branch, *Citrus* species — California.
- HILL, ELLSWORTH J., Chicago.
1 herbarium specimen — Indiana.
- HYNES, J. A., Chicago.
1 *Apium graveolens*.
- INDIAN MUSEUM, Calcutta, India.
327 economic specimens — India (exchange).
- INGRAHAM, N. B., Whittier, California.
13 Eucalyptus Oils — California.
- JONES, R. H., Chicago.
1 talking machine needle.
- K. B. BOTANISCHEN MUSEUMS, Munich, Bavaria, Germany.
991 herbarium specimens — Bavaria, Germany (exchange).
- KRASOWSKI, MICHAEL, Chicago.
1 fruit of "Locka Bean" — Central Africa.
- LANSING, O. E., JR., Chicago.
3 fungi — Illinois and Michigan.
164 herbarium specimens — Richland County, Wisconsin.
- LIMA, J. A., Santiago de las Vegas, Cuba.
2 herbarium specimens — Cuba.
- LOEB, J. A. Chicago.
1 herbarium specimen — Chicago.
- MACKENSEN, B., San Antonio, Texas.
1 photograph of *Opuntia leptocarpa* Mackensen.
2 herbarium specimens — Texas.
4 specimens of *Opuntia* — Texas.
- MILLSPAUGH, MRS. C. F., Chicago.
1 specimen hand made arrowroot starch—Harbor Springs, Michigan.
1 herbarium specimen — Wisconsin.
- MILLSPAUGH, C. F., Chicago.
3 herbarium specimens — Chicago.
204 herbarium specimens — Wisconsin.
- NEW YORK BOTANICAL GARDEN, New York.
2 herbarium specimens — Rocky Mountains and Jamaica.
1 photograph of type of *Andrachne Brittonii* Urban.
807 herbarium specimens (exchange).
4 herbarium specimens — Louisiana.
3 herbarium specimens — Cuba.
12 herbarium specimens — Bahamas (exchange).
562 herbarium specimens — West Indies (exchange).
1 herbarium specimen — Bermuda (exchange).
11 herbarium specimens — Jamaica (exchange).
- PACIFIC COAST KELP MULCH COMPANY, Los Angeles, California.
9 kelp products — California.
- PARISH, S. B., San Bernardino, California.
2 herbarium specimens — Southern California.
9 herbarium specimens — Arizona and California.
- RETON, M. C., San Diego, California.
3 specimens kelp basket material and basket — California.

- ROTHROCK, J. T., West Chester, Pennsylvania.
156 mosses — United States and Europe.
- ROYAL BOTANIC GARDENS, Peradeniya, Ceylon.
26 economic and herbarium specimens — Ceylon.
- SCHUETTE, MISS CLARA, Green Bay, Wisconsin.
Portrait of the late J. H. Schuette.
- SELM, ARTHUR W., Kankakee, Illinois.
1 herbarium specimen — Kankakee, Illinois.
- SESSIONS, MISS KATE O., San Diego, California.
1 wood specimen — California.
- SHELDON, JOHN L., Morgantown, West Virginia.
11 herbarium specimens — West Virginia.
- SHERFF, EARL E., Chicago.
33 herbarium specimens — Illinois, Arizona, Michigan and Indiana.
1 herbarium specimen — Iowa.
1 herbarium specimen — Illinois.
2 herbarium specimens — Arizona and Illinois.
5 herbarium specimens — Illinois.
- SMITH, ERNEST C., Chicago.
1 herbarium specimen — Illinois.
9 herbarium specimens — Illinois.
- STEARNS, ELMER, Chihuahua, Mexico.
2 herbarium specimens — New Mexico.
- TOWNSEND, C. H. T., Piura, Peru.
2 herbarium specimens — Peru.
51 herbarium specimens — Peru.
- TRELEASE, WILLIAM, St. Louis, Missouri.
12 herbarium specimens — Arizona.
- UNITED STATES DEPARTMENT OF AGRICULTURE, Washington, D. C.
4 oleoresins — California.
160 herbarium specimens — Arizona, Colorado, Mexico, New Mexico and Texas (exchange).
6 herbarium specimens — Turkestan (exchange).
- UNITED STATES NATIONAL MUSEUM, Washington, D. C.
272 herbarium specimens — (exchange).
434 herbarium specimens — (exchange).
1 herbarium specimen — San Salvador.
57 herbarium specimens — North America and Europe (exchange).
- UNIVERSITY OF CALIFORNIA, Berkeley, California.
125 herbarium specimens — California.
- UNIVERSITY OF NEVADA, Reno, Nevada.
4 herbarium specimens — Nevada.

DEPARTMENT OF GEOLOGY.

(ACCESSIONS ARE BY GIFT UNLESS OTHERWISE DESIGNATED).

BARTON, S. W., Chicago.

- 19 specimens thomsonite, chlorastrolite and chalcedony — Isle Royale,
Lake Superior (loan).

236 FIELD MUSEUM OF NATURAL HISTORY — REPORTS, VOL. IV

BECKER, A. G., Clermont, Iowa.

138 specimens invertebrate fossils — Clermont, Iowa.

BÖHM, JULIUS, Vienna, Austria.

3 specimens meteorites (exchange).

DE MAUROY, M., Wassy, France.

7 specimens Kermichel meteorite, aragonite, amblygonite and celestite — France (exchange).

DORSEY, GEORGE A., Chicago.

3 specimens ruby crystal and moonstone — Mogouk Burma.

EMMERT, H. L., Chicago.

50 garnet crystals — Blairmore, Alberta, Canada.

FARRINGTON, O. C., Chicago.

1 specimen glass sand — Utica, Illinois.

FIELD MUSEUM OF NATURAL HISTORY.

Collected by O. C. Farrington:

5 specimens eruptive rocks — Caliente, Nevada.

Collected by E. S. Riggs:

2 specimens zinc ore — Carthage, Missouri.

Collected by A. W. Slocum:

920 specimens invertebrate fossils — Fayette County, Iowa.

Purchases:

Ward-Coonley collection of meteorites.

1 section of Hermitage Plains meteorite — Hermitage Plains, Australia.

1 quartz flask.

1 skull of *Dolichorhinus* — Utah.

1 meteorite — Reading, Kansas.

1 section of Amalia meteorite — Amalia, South Africa.

236 invertebrate fossils and minerals.

1 specimen millerite — Keokuk, Iowa.

1 gold nugget — Klondike, Alaska.

60 specimens fossil leaves — Mazon Creek, Illinois.

1 section Kingston meteorite — Kingston, New Mexico.

FOOTE MINERAL COMPANY, Philadelphia, Pennsylvania.

4 specimens minerals (exchange).

38 specimens minerals (exchange).

1 section of Kilbourn meteorite — Kilbourn, Wisconsin.

1 cast of Kingston meteorite — Kingston, New Mexico.

202 individuals Holbrook meteorite — Holbrook, Arizona (exchange).

GOODSELL, B. W., Chicago.

1 specimen hematite — Lake Superior.

GUNDLACH, E. T., Chicago.

1 part of femur of megatherium — Andes of Peru, South America.

KENKEL, LOUIS V., Seattle, Washington.

49 specimens ores and minerals — Alaska.

LILJEBLAD, EMIL, Chicago.

1 specimen halotrichite — Sherrard, Illinois.

MC CAMMON, E., Oroville, Washington.

1 specimen weathered concretion — Washington.

MC CREA, W. S., Chicago.

1 specimen emerald in matrix — Colombia, South America.

MARSH, C. H., Marshfield, Oregon.

11 specimens mineral wax, agate, petrified wood and obsidian — Oregon.

MASON, THOMAS, Chicago.

5 specimens fossil plants — Luke Creek, West Virginia.

MILLSPAUGH, C. F., Chicago.

1 specimen flexible sandstone — Futehpur, Sikri, India.

MUIR, JOHN R., Chicago.

14 specimens rocks and ores — Tibet.

NORTON COMPANY, Worcester, Massachusetts.

11 specimens alundum and products — Niagara Falls, New York.

THURSTON, F. A., Chicago.

1 specimen cyanite — Shawanaga, Ontario, Canada.

SCHROTT, FRED, Salt Lake City, Utah.

2 specimens native gold and liebethenite — California and Nevada.

SKINNER, GARDNER M., Royal Center, Indiana.

30 specimens fossils, concretions and obsidian.

UNITED STATES GEOLOGICAL SURVEY, Washington, D. C.

228 specimens crude petroleum—United States.

WINSTON, CHARLES, Chicago.

340 specimens fossils, rocks and minerals.

WOLEY, H. P., Chicago.

205 specimens invertebrate fossils, minerals, lava, etc.

ZOLLNER, PAUL, Plainfield, Ohio.

22 specimens concretions — Coshocton County, Ohio.

DEPARTMENT OF ZOÖLOGY.

(ACCESSIONS ARE BY GIFT UNLESS OTHERWISE DESIGNATED.)

ANDERSON, J. A., Chicago.

1 saw of Saw-fish and 1 back of Armadillo.

BEER, EMIL, Chicago.

14 moths and butterflies — Pennsylvania, Northern Indiana and Northern Illinois.

CALVERT, P. P., and McLACHLAN, ROBERT.

22 dragonflies — Borneo.

CARPENTER, C. H., Chicago.

1 butterfly — Edge Wood Grove, Miami, Florida.

CORY, MRS. C. B., Chicago.

14 beetles, bugs, etc.—Grand Beach, Michigan.

DITZEL, H. F., Chicago,

1 dragonfly — Chicago.

DYSON, MRS. B. F., Bogota, Illinois.

1 live Redshouldered Hawk.

EVANS GAME FARM, Oak Park, Illinois.

1 skin Canada Goose (domestic).

FIELD MUSEUM OF NATURAL HISTORY.

Collected by Charles Brandler:

8 ducks and teal — Washington County, Wisconsin.

Collected by C. B. Cory:

5 Striped Ground Squirrels — Burnside, Illinois.

Collected by W. J. Gerhard:

283 dragonflies, roaches, grasshoppers, katydids, bugs, butterflies, moths, beetles, flies, bees, wasps and parasites — Northern Indiana and Northern Illinois.

103 dragonflies, grasshoppers, bugs, moths, beetles, flies, bees, wasps and parasites — Southern Michigan, Northern Indiana and Northern Illinois.

Collected by S. E. Meek:

7 bugs and beetles — Costa Rica.

Collected by S. E. Meek and S. F. Hildebrand:

567 decapods and isopods — Canal Zone and vicinity, Panama.

Collected by W. H. Osgood and M. P. Anderson:

83 millipeds, spiders, mites, bird lice, bugs, grasshoppers, butterflies, moths, flies, fleas, beetles, etc. — Peru, South America.

3 skeletons of small rodents — Pacasmayo, Peru.

214 fishes — Peru.

44 lizards, snakes, toads and frogs — Peru.

525 mammal and bird skins — Peru.

6 Raccoon skins and skulls — Balboa, Canal Zone.

127 mammal skins, skulls and skeletons and bird skins and eggs — Northern Peru.

280 mammal skins and skulls, bird skins, bats, opossum-like forms and bugs — Peru, South America.

344 mammal skins, skulls and skeletons, bird skins and eggs, spiders, grasshoppers, land shells, lizards, fishes and bats — Peru, South America.

Collected by A. B. Wolcott:

139 grasshoppers, bugs, butterflies, moths, beetles, flies, bees, wasps and parasites — Northern Indiana and Northern Illinois.

164 spiders, stoneflies, grasshoppers, katydids, crickets, bugs, moths, beetles, flies, bees, wasps and parasites — Northern Indiana, Northern Illinois and Missouri.

Mounted by E. N. Gueret:

1 skeleton of Toucan — Paramo de Tama, Venezuela.

1 skeleton of Australian Anteater — Australia.

2 skeletons of chameleon and 1 skeleton of snake — Africa.

1 skull of chimpanzee.

Mounted by W. Heim.

130 fish — California.

27 fish — Key West, Florida.

1 Saw-fish — Tampico, Mexico.

3 fish and some sea-weeds — Long Beach, California.

Purchases:

1 Great Blue Heron — Florida.

33 specimens mammals — Jay County, Indiana.

1 banded Australian Anteater — Australia.

8 bird skins — Tobago, West Indies.

1 Brewer's Field-mouse — Muskeget Island, Massachusetts.

- 100 bird skins — British Guiana.
- 8 mounted swans cranes, etc.
- 2 skeletons of porpoise — Lake Maracaibo, Venezuela.
- 78 birds' eggs and nests.
- 24 birds, Albino or partly Albino—Europe (purchased by Mr. E. E. Ayer).
- 19 bird skins — Antioquia, Colombia, South America.
- 14 butterflies and moths — California, Maryland, New York and Ohio.
- 1 Cackling Goose — Washington County, Wisconsin.
- FRIESSER, J., Chicago.
 - 1 Golden Eagle — Kansas (exchange).
 - 1 skin Hermit Thrush — Chicago.
 - 2 skulls buffalo — Fort Pierre, South Dakota.
- GAGE, S. H., Ithaca, New York.
 - 62 lampreys, larvæ and eggs — Ithaca, New York.
- GILLET, CLARENCE R., Chicago.
 - 3 fish.
- GERHARD, W. J., Chicago.
 - 1 skin Fox Sparrow — Chicago.
- GUERET, E. N., Chicago.
 - 1 skeleton of Wilson Snipe — Lake Calumet, Cook County Illinois.
- HARPHAM, E. L., Evanston, Illinois.
 - 1 Whistling Swan.
- IOWA STATE UNIVERSITY, Iowa City, Iowa.
 - 24 species of birds—Laysan Island.
- KWIAT, ALEX., Chicago.
 - 5 mosquito, beetle, fly, parasite — Northern Indiana and Northern Illinois.
- LILJEBLAD, E., Chicago.
 - 1 spider — Bowmanville, Illinois.
- LINCOLN PARK COMMISSIONERS, Lincoln Park, Chicago.
 - 1 chimpanzee.
- LOEB, J. A., Chicago.
 - 35 bird skins — Central or South America.
- MCDONALD, MRS. H. F., Chicago.
 - 1 mounted Sail-fish.
- MAIN, W. W., Sinamox, Oregon.
 - 2 walking-sticks — Sinamox, Oregon.
- MITCHELL, FRANCISCO, Yurimaguas, Peru.
 - 2 snakes — Yurimaguas, Peru.
- PRAY, L. L., Chicago.
 - 1 Deer Mouse — Iowa City, Iowa.
- SCHUBERT, A., Chicago.
 - 1 parasite — Chicago.
- SNETHLAGE, E., Para, Brazil.
 - 43 mammal skins — Brazil.
- STEPHENSON, FRED M.
 - 7 White-eared Kob Antelopes and Wild Dogs — Africa.
- THOMPSON, STUART L., Toronto, Canada.
 - 1 Otter skull.
- THOMPSON, S. L., Canton, Ohio.
 - 3 wasp, beetle, bug — Canton, Ohio.

UNITED STATES BUREAU OF FISHERIES, Washington, D. C.

252 freshwater shells — United States.

WILLIAMSON, E. B., Bluffton, Indiana.

1 American Coot — Bluffton, Indiana.

WILLIAMSON, E. B., and DEAM, C. C., Bluffton, Indiana.

1 Whistling Swan — Vera Cruz, Wells County, Indiana.

SECTION OF PHOTOGRAPHY.

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FIELD MUSEUM OF NATURAL HISTORY.

Made by C. H. Carpenter:

596 negatives Museum specimens, etc., 6728 prints, 418 lantern slides, 25 enlargements, 208 negatives developed for field expeditions, 5 photo-macrographs, 4 Lumiere autochrome color plates.

Made by Edward L. Baker, Lake Forest, Illinois.

— negatives of general views, landscapes, etc. (The negatives were loaned to the Museum and one set of prints donated by Mr. Baker; total number of prints including the set presented, 1088.)

Made by S. E. Meek:

108 negatives, general views, landscapes, etc.— Panama and Costa Rica.

Made by C. F. Millspaugh:

378 negatives, general views, landscapes, etc.

John R. Muir, Kingston, Canada.

— negatives of landscapes, general views, portraits, etc.— Philippines. (The negatives were loaned to the Museum and one set of prints donated by Mr. Muir; total number of prints including the set presented, 554.)

Made by W. H. Osgood:

217 negatives, general views, landscapes, etc.

Made by H. H. Smith:

934 negatives, landscapes general views, portraits of trees, etc.— California.

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Field-Sprague Ornithology Fund.

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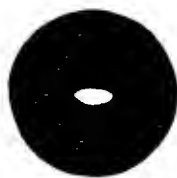
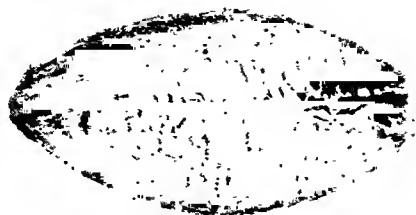
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TROYES.

Triticum sativum

A grain of Troyes Wheat, standard of the Troy Grain, Troy weight. In mediaeval times nearly all towns or seats of commercial activity, had their own standards of weight and measure. In the early part of the fourteenth century the "Pound of Troy" was accepted in England, and many other places, for weighing bread, silk, gold, silver and jewelry, it is now used for gold and silver only. One kernel of the wheat of Troyes equals one grain troy.

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NORTH CAROLINA GEOLOGICAL AND ECONOMIC SURVEY. Raleigh, North Carolina	17
NORTH DAKOTA STATE HISTORICAL SOCIETY, Bismarck, North Dakota	3
NORTH DAKOTA UNIVERSITY, University, North Dakota	3
NORTHWESTERN UNIVERSITY, Evanston, Illinois	1
NOTRE DAME UNIVERSITY, Notre Dame, Indiana	2
NOVA SCOTIAN INSTITUTE OF SCIENCE, Halifax, Nova Scotia	2
NOVARA. ISTITUTO GEOGRAFICO DE AGOSTINI, Novara, Italy	2
NUMISMATIC AND ANTIQUARIAN SOCIETY, Montreal, Canada	1
NÜRNBERG. NATURHISTORISCHE GESELLSCHAFT, Nurnberg, Germany	2
OAKLAND FREE LIBRARY, Oakland, California	1
OBERLIN COLLEGE LIBRARY, Oberlin, Ohio	1
OBERRHEINISCHER GEOLOGISCHER VEREIN, Stuttgart, Germany	1
OHIO AGRICULTURAL EXPERIMENT STATION, Wooster, Ohio	14
OHIO STATE ARCHÆOLOGICAL AND HISTORICAL SOCIETY, Columbus, Ohio	1
OHIO STATE COLLEGE OF AGRICULTURE, Columbus, Ohio	3
OHIO STATE UNIVERSITY, Columbus, Ohio	4
OHIO STATE UNIVERSITY ASSOCIATION, Columbus, Ohio	1
OKLAHOMA AGRICULTURAL EXPERIMENT STATION, Stillwater, Oklahoma	6
OKLAHOMA GEOLOGICAL SURVEY, Norman, Oklahoma	2
ONEIDA HISTORICAL SOCIETY, Utica, New York	1
ONTARIO DEPARTMENT OF AGRICULTURE, Ontario, Canada	27
OPEN COURT PUBLISHING COMPANY, Chicago	2
OREGON AGRICULTURAL EXPERIMENT STATION, Corvallis, Oregon (gift)	7
OREGON STATE BOARD OF FORESTRY, Salem, Oregon	3
OTTAWA DEPARTMENT OF MARINE AND FISHERIES, Ottawa, Canada	1
OTTAWA FIELD NATURALISTS' CLUB, Ottawa, Canada	1
OUTES, FELIX F., La Plata, Argentina	3
OXFORD DELEGATES OF UNIVERSITY MUSEUM, Oxford, England	1
PALERMO. R. ORTO BOTANICO E GIARDINO COLONIALE, Palermo, Italy	2
PARIS. ACADÉMIE DES SCIENCES, Paris, France	2
PARIS. ÉCOLE D'ANTHROPOLOGIE, Paris, France	1

PARIS. MINISTÈRE DE L'INSTRUCTION PUBLIQUE ET DES BEAUX-ARTS, Paris, France	1
PARIS. MUSÉE D'HISTOIRE NATURELLE, Paris, France	1
PARIS. SOCIÉTÉ DES AMÉRICANISTES, Paris, France	1
PARIS. SOCIÉTÉ NATIONALE D'AGRICULTURE, Paris, France	1
PARKE, DAVIS AND COMPANY, Detroit, Michigan (gift)	1
PASSAU. NATURHISTORISCHER VEREIN, Passau, Germany	19
PEABODY INSTITUTE, Peabody, Massachusetts	1
PEABODY MUSEUM OF AMERICAN ARCHÆOLOGY AND ETHNOLOGY, Cambridge, Massachusetts	1
PENNSYLVANIA AGRICULTURAL EXPERIMENT STATION, Harrisburg, Pennsylvania	12
PENNSYLVANIA MUSEUM AND SCHOOL OF INDUSTRIAL ART, Philadelphia, Pennsylvania	1
PENNSYLVANIA STATE DEPARTMENT OF AGRICULTURE, Harrisburg, Pennsylvania	5
PENNSYLVANIA TOPOGRAPHIC AND GEOLOGIC SURVEY COMMISSION, Harrisburg, Pennsylvania	8
PENNSYLVANIA UNIVERSITY, Philadelphia, Pennsylvania	9
PENROSE, R. A. F., JR., Philadelphia, Pennsylvania	2
PEORIA PUBLIC LIBRARY, Peoria, Illinois	2
PERKINS, G. H., Burlington, Vermont	2
PERTSHIRE NATURAL HISTORY MUSEUM, Perth, Scotland	1
PERTSHIRE SOCIETY OF NATURAL SCIENCE, Perth, Scotland	1
PHILADELPHIA ACADEMY OF NATURAL SCIENCES, Philadelphia, Pennsylvania	1
PHILADELPHIA COLLEGE OF PHYSICIANS, Philadelphia, Pennsylvania	1
PHILADELPHIA COMMERCIAL MUSEUM, Philadelphia, Pennsylvania	7
PHILIPPINE ISLANDS. BUREAU OF EDUCATION, Manila, Philippine Islands	1
PHILIPPINE ISLANDS. DEPARTMENT OF THE INTERIOR. BUREAU OF SCIENCE, Manila, Philippine Islands	14
PHILLIPS ACADEMY, Andover, Massachusetts	1
PILGRIM MEMORIAL COMMITTEE, Southampton, England	1
PIONEER WESTERN LUMBERMAN, Sacramento, California (gift)	1
PLYMOUTH MUSEUM AND ART GALLERY, Plymouth, England	1
POMONA COLLEGE, Claremont, California	1
PORTICI. R. SCUOLA SUPERIORE D'AGRICOLTURA, Portici, Italy	2
POSEN. DEUTSCHE GESELLSCHAFT FÜR KUNST UND WISSENSCHAFT, Posen, Germany	2
PRAG. ACADÉMIE DES SCIENCES DE L'EMPEREUR FRANÇOIS JOSEPH I, Prag, Bohemia	2
PRAG. K. BÖHMISCHE GESELLSCHAFT WISSENSCHAFT, Prag, Bohemia	8
PRATT INSTITUTE FREE LIBRARY, Brooklyn, New York	2
PRINTING ART, THE, New York City (gift)	2
PROVIDENCE PUBLIC LIBRARY, Providence, Rhode Island	2
PURDUE UNIVERSITY, Lafayette, Indiana	11
QUEENSLAND. DEPARTMENT OF MINES, Brisbane, Queensland	5



SKELETON OF EARLY RODENT (*Stenother bathouri*), LOWER MIOCENE OF NEBRASKA.

QUEENSLAND FIELD NATURALISTS' CLUB, Brisbane, Queensland	1
QUEENSLAND MUSEUM, Brisbane, Queensland	2
QUEENSLAND ROYAL GEOGRAPHICAL SOCIETY, Brisbane, Queensland	1
QUEENSLAND ROYAL SOCIETY, Brisbane, Queensland	1
RANDALL AND COMPANY, Chicago (gift)	2
RENNES UNIVERSITY, Rennes, France	4
REVUE BRETONNE DE BOTANIQUE, Rennes, France	1
REVUE CRITIQUE DE PALÉOZOOLOGIE, Paris, France	1
REVUE SCIENTIFIQUE DU BOURBONNAIS ET DU CENTRE DE LA FRANCE, Moulins, France	1
LA REVISTA DE AGRICULTURA TROPICAL, Mexico City	1
RHOADS, SAMUEL N., Philadelphia, Pennsylvania	5
RHODE ISLAND AGRICULTURAL EXPERIMENT STATION, Kingston, Rhode Island	6
RHODESIA MUSEUM, Bulawayo, Rhodesia	1
RHODESIA SCIENTIFIC ASSOCIATION, Bulawayo, Rhodesia	2
RIES, HEINRICH, Ithaca, New York	4
RIO DE JANEIRO MUSEO NACIONAL, Rio de Janeiro, Brazil	2
RIVET, P., Paris, France	6
ROBERTS, THOMAS S., Minneapolis, Minnesota	3
ROCHESTER ACADEMY OF SCIENCES, Rochester, New York	1
ROGER WILLIAMS PARK MUSEUM, Providence, Rhode Island	2
ROME. R. ACCADEMIA DEI LINCEI, Rome, Italy	4
ROSE POLYTECHNIC INSTITUTE, Terre Haute, Indiana	1
ROSEN, NILS, Lund, Sweden	1
ROTH, WALTER E., Georgetown, British Guiana	3
ROTTERDAM MUSEUM VOOR LAND-EN-VOLKENKUNDE, Rotterdam, Holland	1
ROYAL ARCHÆOLOGICAL INSTITUTE OF GREAT BRITAIN AND IRELAND, London, England	1
ROYAL CORNWALL POLYTECHNIC SOCIETY, Falmouth, England	1
ST. GALL. OSTSCH. GEOGRAPH. COMMERC. GESELLSCHAFT, St. Gall, Switzerland	1
ST. LOUIS ACADEMY OF SCIENCES, St. Louis, Missouri	1
ST. LOUIS CITY ART MUSEUM, St. Louis, Missouri	4
ST. LOUIS MERCANTILE ASSOCIATION, St. Louis, Missouri	1
ST. LOUIS PUBLIC LIBRARY, St. Louis, Missouri	2
ST. LOUIS UNIVERSITY, St. Louis, Missouri	1
ST. PETERSBURG. ACADEMIE IMPÉRIALE DES SCIENCES, St. Petersburg, Russia	17
ST. PETERSBURG. SOCIÉTÉ IMPÉRIALE DES NATURALISTES, St. Petersburg, Russia	1
SALEM PUBLIC LIBRARY, Salem, Massachusetts	1
SAN DIEGO SOCIETY OF NATURAL HISTORY, San Diego, California	3
SAN JOSÉ. MUSEO NACIONAL, San José, Costa Rica	2
SÃO PAULO. DEPARTAMENTO ESTADUAL DO TRABALHO, São Paulo, Brazil	1
SÃO PAULO. INSTITUTO AGRONOMICO, São Paulo, Brazil	2

SAO PAULO. SOCIEDADE CIENTIFICA, Sao Paulo, Brazil	1
SAÔNE ET LOIRE. SOCIÉTÉ DES SCIENCES NATURELLES	
Chalon-sur-Saône, France	2
SAPIR, EDWARD, Washington, D. C.	6
SARAWAK MUSEUM, Borneo, India	1
SARGENT, CHARLES S., New York City	1
SCHLESISCHE GESELLSCHAFT FÜR VATERLÄNDISCHE CULTUR,	
Breslau, Prussia	1
SCHMIDT, P. W., Mölling, Austria	2
SCHOBERT, ERICH, Leipzig, Germany	1
SCHWEIZERISCHE ENTOMOLOGISCHE GESELLSCHAFT, Bern,	
Switzerland	1
SCHWEIZERISCHE NATURFORSCHENDE GESELLSCHAFT, Aarau,	
Switzerland	2
SCHWEIZERISCHE NATURFORSCHENDE GESELLSCHAFT	
Lausanne, Switzerland	2
SCOTLAND FISHERIES BOARD, Glasgow, Scotland	1
SELER, EDUARD, Berlin, Germany	2
SENCKENBERGISCHE NATURFORSCHENDE GESELLSCHAFT,	
Frankfurt-a.-M., Germany	1
SERGI, GIUSEPPE, Rome, Italy	1
SHEFFIELD PUBLIC MUSEUMS, Sheffield, England	1
SLOCOM, A. W., Chicago (gift)	1
SLONAKER, JAMES ROLLIN, Palo Alto, California	1
SMITH, J. D., Baltimore, Maryland	1
SOCIETÀ AFRICANA ITALIANA, Rome, Italy	1
SOCIETÀ GEOGRAFICA ITALIANA, Rome, Italy	2
SOCIETÀ GEOLOGICA ITALIANA, Rome, Italy	1
SOCIETÀ ITALIANA DI ANTROPOLOGIA, Florence, Italy	2
SOCIETÀ ROMANA DI ANTROPOLOGIA, Rome, Italy	2
SOCIETÀ TOSCANA DI SCIENZE NATURALI, Pisa, Italy	2
SOCIETAS PRO FAUNA ET FLORA FENNICA, Helsingfors, Finland	2
SOCIÉTÉ BELGE DE GÉOLOGIE, DE PALÉONTOLOGIE ET	
D'HYDROLOGIE, Brussels, Belgium	1
SOCIÉTÉ BOTANIQUE DE COPENHAGEN, Copenhagen, Denmark	1
SOCIÉTÉ BOTANIQUE DE FRANCE, Paris, France	1
SOCIÉTÉ D'ÉTUDES DES SCIENCES NATURELLES, Rheims, France	1
SOCIÉTÉ D'ÉTUDES SCIENTIFIQUES, Angers, France	1
SOCIÉTÉ D'HORTICULTURE ET DE BOTANIQUE, Marseilles, France	1
SOCIÉTÉ DES AMIS DE L'UNIVERSITÉ, Clermont, France	1
SOCIÉTÉ DES SCIENCES, Nancy, France	1
SOCIÉTÉ FRIBOURGEOISE DES SCIENCES NATURELLES,	
Fribourg, Switzerland	1
SOCIÉTÉ GÉOLOGIQUE DU NORD, Lille, France	2
SOCIÉTÉ IMPÉRIALE RUSSE DE GÉOGRAPHIE, St. Petersburg,	
Russia	12
SOCIÉTÉ NATIONALE D'AGRICULTURE, Angers, France	1
SOCIÉTÉ NATIONALE D'HORTICULTURE DE FRANCE, Paris, France	1
SOCIÉTÉ NEUCHÂTELOISE DE GÉOGRAPHIE, Neuchâtel,	
Switzerland	1

SOCIÉTÉ OURALIENNE D'AMATEURS DES SCIENCES	
NATURELLES, Ekaterinburg, Russia	1
SOCIÉTÉ PORTUGAISE DE SCIENCES NATURELLES, Lisbon,	
Portugal	2
SOCIÉTÉ ROYALE DE BOTANIQUE DE BELGIQUE, Brussels,	
Belgium	1
SOCIÉTÉ ROYALE ZOOLOGIQUE ET MALACOLOGIQUE DE	
BELGIQUE, Brussels, Belgium	1
SOCIÉTÉ ZOOLOGIQUE DE FRANCE, Paris France	3
SOUTH AFRICA. GEOLOGICAL SOCIETY, Johannesburg, South Africa	3
SOUTH AFRICA. MINES DEPARTMENT, Pretoria, South Africa	1
SOUTH AFRICAN ASSOCIATION FOR THE ADVANCEMENT OF	
SCIENCE, Cape Town, South Africa	1
SOUTH AFRICAN DEPARTMENT OF AGRICULTURE, Cape Town,	
South Africa	1
SOUTH AFRICAN MUSEUM, Cape Town, South Africa	3
SOUTH AFRICAN ROYAL SOCIETY, Cape Town, South Africa	1
SOUTH AUSTRALIA. Department of Agriculture, Adelaide, South	
Australia	3
SOUTH AUSTRALIA PUBLIC LIBRARY, MUSEUM AND ART	
GALLERY, Adelaide, South Australia	1
SOUTH CAROLINA AGRICULTURAL EXPERIMENT STATION,	
Clemson, South Carolina	4
SOUTH DAKOTA AGRICULTURAL EXPERIMENT STATION,	
Brookings, South Dakota	7
SOUTH LONDON ENTOMOLOGICAL AND NATURAL HISTORY	
SOCIETY, London, England	1
SOUTHERN CALIFORNIA ACADEMY OF SCIENCES, Los Angeles,	
California	1
SOUTHERN PACIFIC RAILROAD, San Francisco, California	1
SPEZIA. GIORGIO, Torino, Italy	2
STATEN ISLAND ASSOCIATION OF ARTS AND SCIENCES, New	
York City	1
STECHERT AND COMPANY, New York City (gift)	1
STETTIN. GESELLSCHAFT FÜR VÖLKER- UND ERDKUNDE,	
Stettin, Germany	2
STOCKHOLM. K. VITT. HIST. OCH ANTIK. AKADEMIEN,	
Stockholm, Sweden	3
STOCKHOLM. KUNG. BIBLIOTEKET, Stockholm, Sweden	7
STOCKHOLM. UNIVERSITÉ DE STOCKHOLM. INSTITUT DE	
BOTANIQUE, Stockholm, Sweden	1
STRASSBURG. KAISER WILHELMS UNIVERSITÄT, Strassburg,	
Germany	7
STRONG, R. M., Chicago (gift)	5
SWEDEN. FÖRSTLICHE VERSUCHSANSTALT, Stockholm, Sweden	1
SYRACUSE UNIVERSITY, Syracuse, New York	1
TASMANIA. DEPARTMENT OF AGRICULTURE, Hobart, Tasmania	2
TASMANIA. ROYAL SOCIETY, Hobart, Tasmania	2
TAUBENHAUS, J. J.	3
TEILING, EINAR, Stockholm, Sweden	1

TENNESSEE. AGRICULTURAL EXPERIMENT STATION, Knoxville, Tennessee	11
TENNESSEE. GEOLOGICAL SURVEY, Nashville, Tennessee	6
TEXAS AGRICULTURAL EXPERIMENT STATION, College Station, Texas	2
THAXTER, ROLAND, Cambridge	3
THROOP INSTITUTE, Pasadena, California	1
THÜRINGISCHER BOTANISCHER VEREIN. Weimar, Germany	1
TIMBERMAN, THE, Portland, Oregon (gift)	1
TOKYO. ANTHROPOLOGICAL SOCIETY, Tokyo, Japan	2
TOKYO. BOTANICAL SOCIETY, Tokyo, Japan	10
TOKYO. DEUTSCHE GESELLSCHAFT FÜR NATUR- UND VÖLKERKUNDE OSTASIENS, Tokyo, Japan	1
TOKYO. GEOLOGICAL SURVEY, Tokyo, Japan	1
TORINO. MUSEO DI ZOOLOGIA ET ANATOMIA COMPARATA. Turin, Italy	1
TORINO. R. ACCAD. DELLE SCIENZE, Turin, Italy	3
TORONTO UNIVERSITY, Toronto, Canada	4
TRANSSVAAL. DEPARTMENT OF MINES, Pretoria, Transvaal	1
TRANSSVAAL MUSEUM, Pretoria, Transvaal	1
TRELEASE, WILLIAM, St. Louis, Missouri	1
TRING ZOOLOGICAL MUSEUM, Tring, England	1
TRIVANDRUM MUSEUM, Trivandrum, India	1
TROMSO MUSEUM. Tromso, Norway	2
TRONDHJEM K. NORSKE VIDENSKABERS SELSKAB, Trondhjem, Norway	1
TÜBINGEN. K. UNIVERSITÄTS-BIBLIOTHEK, Tübingen, Germany	4
TUFTS COLLEGE, Tufts College, Massachusetts	1
TUNIS. CARTHAGE INSTITUTE, Tums, Africa	1
U. S. GOVERNMENT, Washington, D. C.	642
U. S. INDIAN SCHOOL. Carlisle, Pennsylvania	2
UPSALA. UNIVERSITY, Upsala, Sweden	2
UTAH. STATE HORTICULTURAL COMMISSION, Salt Lake City, Utah	1
VAN DENBURGH, JOHN, San Francisco, California	2
VASSAR BROTHERS INSTITUTE, Poughkeepsie, New York	1
VERMONT BIRD CLUB, Burlington, Vermont	1
VERMONT STATE FORESTER, Burlington, Vermont	1
VERMONT UNIVERSITY, Burlington, Vermont	1
VICTORIA. DEPARTMENT OF AGRICULTURE, Melbourne, Australia	2
VICTORIA FIELD NATURALISTS' CLUB. Melbourne, Australia	1
VICTORIA. PUBLIC LIBRARY, MUSEUMS AND NATIONAL GALLERY, Victoria, Australia	1
VICTORIA. ROYAL SOCIETY, Melbourne, Australia	1
VICTORIA. ROYAL ZOOLOGICAL AND ACCLIMATIZATION SOCIETY, Melbourne, Australia	1
VICTORIA UNIVERSITY, Toronto, Canada	3
VIENNA. K. K. NATURHISTORISCHES HofMUSEUM, Vienna, Austria	1
VIENNA. K. K. UNIVERSITÄT, Vienna, Austria	5
VIENNA. K. K. ZOOLOGISCH-BOTANISCHE GESELLSCHAFT, Vienna, Austria	1

VIENNA. NATURWISSENSCHAFTLICHER VEREIN, Vienna, Austria	1
VIRGINIA AGRICULTURAL EXPERIMENT STATION, Blacksburg, Virginia	3
VIRGINIA STATE LIBRARY, Richmond, Virginia	3
VIRGINIA UNIVERSITY, Charlottesville, Virginia	2
WANGANUI PUBLIC MUSEUM, Wanganui, New Zealand	1
WASHINGTON ACADEMY OF SCIENCES, Washington, D. C.	1
WASHINGTON BIOLOGICAL SOCIETY, Washington, D. C.	1
WASHINGTON STATE ART ASSOCIATION, Seattle, Washington (gift)	1
WASHINGTON STATE GEOLOGICAL SURVEY, Olympia, Washington	3
WASHINGTON STATE MUSEUM, Seattle, Washington	1
WASHINGTON UNIVERSITY, St. Louis, Missouri	1
WEIGEL, OSWALD, Leipzig, Germany (gift)	3
WELLCOME CHEMICAL RESEARCH LABORATORIES, London, England	16
WELLINGTON ACCLIMATIZATION SOCIETY, Wellington, New Zealand	1
WESLEYAN UNIVERSITY, Middletown, Connecticut	2
WEST INDIES. IMPERIAL DEPARTMENT OF AGRICULTURE, Barbados, West Indies	2
WEST VIRGINIA AGRICULTURAL EXPERIMENT STATION, Morgantown, West Virginia	2
WEST VIRGINIA GEOLOGICAL SURVEY, Morgantown, West Virginia	7
WEST VIRGINIA STATE BOARD OF AGRICULTURE, Charleston, West Virginia	1
WEST VIRGINIA UNIVERSITY, Morgantown, West Virginia	1
WESTERN AUSTRALIA. GEOLOGICAL SURVEY, Perth, West Australia	1
WESTERN PENNSYLVANIA ENGINEERS' SOCIETY, Pittsburgh, Pennsylvania	2
WIESBADEN. NASSAUISCHER VEREIN FÜR NATURKUNDE, Wiesbaden, Germany	1
WILLE, N., Christiania, Norway	2
WILLIAMS COLLEGE, Williamstown, Massachusetts	2
WILSON ORNITHOLOGICAL CLUB, Oberlin, Ohio	1
WINDSOR-KENFIELD PUBLISHING COMPANY, Chicago	2
WISCONSIN ACADEMY OF SCIENCE, Madison, Wisconsin	1
WISCONSIN ARCHÆOLOGICAL SOCIETY, Madison, Wisconsin	1
WISCONSIN GEOLOGICAL AND NATURAL HISTORY SURVEY, Madison, Wisconsin	2
WISCONSIN HISTORY COMMISSION, Madison, Wisconsin	1
WISCONSIN STATE BOARD OF AGRICULTURE, Madison, Wisconsin	2
WISCONSIN STATE HISTORICAL SOCIETY, Madison, Wisconsin	1
WISCONSIN STATE HORTICULTURAL SOCIETY, Madison, Wisconsin	2
WISCONSIN UNIVERSITY, Madison, Wisconsin	16
WISTAR INSTITUTE OF ANATOMY AND BIOLOGY, Philadelphia, Pennsylvania	9
WOLCOTT, A. B., Chicago (gift)	1
WORCESTER COUNTY HORTICULTURAL SOCIETY, Worcester, Massachusetts	1

WORCESTER FREE PUBLIC LIBRARY. Worcester, Massachusetts . . .	2
WULFING, E. A., Heidelberg, Germany	4
WÜRTEMBERG. VEREIN FÜR VATERLÄNDISCHE NATURKUNDE, Würtemberg, Germany	1
WYOMING AGRICULTURAL EXPERIMENT STATION, Laramie, Wyoming	3
WYOMING HISTORICAL AND GEOLOGICAL SOCIETY, Wilkesbarre, Pennsylvania	1
WYOMING STATE GEOLOGICAL SURVEY. Cheyenne, Wyoming . . .	3
YALE UNIVERSITY, New Haven, Connecticut	11
YOUNG, R. T., University, North Dakota (gift)	1
ZIMANYI, KARL, Budapest, Hungary	2
ZÜRICH. BOTANISCHES MUSEUM DER UNIVERSITÄT, Zurich, Switzerland	3
ZÜRICH. GEOGRAPHISCH-ETHNOGRAPHISCHE GESELLSCHAFT, Zürich, Switzerland	3
ZÜRICH. NATURFORSCHENDE GESELLSCHAFT, Zurich, Switzerland .	2



HABITAT GROUP. AMERICAN BEAVER (*Castor canadensis*)

ARTICLES OF INCORPORATION

STATE OF ILLINOIS.

DEPARTMENT OF STATE.

WILLIAM H. HINRICHSSEN, *Secretary of State.*

TO ALL TO WHOM THESE PRESENTS SHALL COME, GREETING

Whereas, a Certificate duly signed and acknowledged having been filed in the office of the Secretary of State, on the 16th day of September, A. D. 1893, for the organization of the COLUMBIAN MUSEUM OF CHICAGO, under and in accordance with the provisions of "An Act Concerning Corporations," approved April 18, 1872, and in force July 1, 1872, and all acts amendatory thereof, a copy of which certificate is hereto attached.

Now, therefore, I, William H. Hinrichsen, Secretary of State of the State of Illinois, by virtue of the powers and duties vested in me by law, do hereby certify that the said COLUMBIAN MUSEUM OF CHICAGO is a legally organized Corporation under the laws of this State.

In Testimony Whereof, I hereto set my hand and cause to be affixed the Great Seal of the State. Done at the City of Springfield, this 16th day of September, in the year of our Lord one thousand eight hundred and ninety-three, and of the Independence of the United States the one hundred and eighteenth.

W. H. HINRICHSSEN,
Secretary of State.

[SEAL.]

TO HON. WILLIAM H. HINRICHSSEN,

SECRETARY OF STATE:

SIR:

We, the undersigned citizens of the United States, propose to form a corporation under an act of the General Assembly of the State of Illinois, entitled "An Act Concerning Corporations," approved April 18, 1872, and all acts amendatory thereof; and that for the purposes of such organization we hereby state as follows, to wit:

1. The name of such corporation is the "COLUMBIAN MUSEUM OF CHICAGO."
2. The object for which it is formed is for the accumulation and dissemination of knowledge, and the preservation and exhibition of objects illustrating Art, Archæology, Science, and History.
3. The management of the aforesaid Museum shall be vested in a Board of FIFTEEN (15) TRUSTEES, five of whom are to be elected every year.
4. The following named persons are hereby selected as the Trustees for the first year of its corporate existence:

Ed. E. Ayer, Charles B. Farwell, George E. Adams, George R. Davis, Charles L. Hutchinson, Daniel H. Burnham, John A. Roche, M. C. Bullock, Emil G. Hirsch, James W. Ellsworth, Allison V. Armour, O. F. Aldis, Edwin Walker, John C. Black, and Frank W. Gunsaulus.

5. The location of the Museum is in the City of Chicago, County of Cook, and State of Illinois.

(Signed),

George E. Adams, C. B. Farwell, Sidney C. Eastman, F. W. Putnam, Robert McMurdy, Andrew Peterson, L. J. Gage, Charles L. Hutchinson, Ebenezer Buckingham, Andrew McNally, Edward E. Ayer, John M. Clark, Herman H. Kohlsaatt, George Schneider, Henry H. Getty, William R. Harper, Franklin H. Head, E. G. Keith, J. Irving Pearce, Azel F. Hatch, Henry Wade Rogers, Thomas B. Bryan, L. Z. Leiter, A. C. Bartlett, A. A. Sprague, A. C. McClurg, James W. Scott, George F. Bissell, John R. Walsh, Chas. Fitzsimons, John A. Roche, E. B. McCagg, Owen F. Aldis, Ferdinand W. Peck, James H. Dole, Joseph Stockton, Edward B. Butler, John McConnell, R. A. Waller, H. C. Chatfield-Taylor, A. Crawford, Wm. Sooy Smith, P. S. Peterson, John C. Black, Jno. J. Mitchell, C. F. Gunther, George R. Davis, Stephen A. Forbes, Robert W. Patterson, Jr., M. C. Bullock, Edwin Walker, George M. Pullman, William E. Curtis, James W. Ellsworth, William E. Hale, Wm. T. Baker, Martin A. Ryerson, Huntington W. Jackson, N. B. Ream, Norman Williams, Melville E. Stone, Bryan Lathrop, Eliphalet W. Blatchford, Philip D. Armour.

STATE OF ILLINOIS }
COOK COUNTY } ss.

I, G. R. MITCHELL, a NOTARY PUBLIC in and for said County, do hereby certify that the foregoing petitioners personally appeared before me and acknowledged severally that they signed the foregoing petition as their free and voluntary act for the uses and purposes therein set forth.

Given under my hand and notarial seal this 14th day of September, 1893.

G. R. MITCHELL,
[SEAL.] NOTARY PUBLIC, COOK COUNTY, ILL.

CHANGE OF NAME.

Pursuant to a resolution passed at a meeting of the Corporate members held the 25th day of June, 1894, the name of the COLUMBIAN MUSEUM was changed to FIELD COLUMBIAN MUSEUM. A certificate to this effect was filed June 26, 1894, in the office of the Secretary of State for Illinois.

CHANGE OF NAME.

Pursuant to a resolution passed at a meeting of the Corporate members held the 8th day of November, 1905, the name of the FIELD COLUMBIAN MUSEUM was changed to FIELD MUSEUM OF NATURAL HISTORY. A certificate to this effect was filed November 10, 1905, in the office of the Secretary of State for Illinois.

AMENDED BY-LAWS.

(AUGUST 12, 1912).

ARTICLE I.

MEMBERS.

SECTION 1. Members shall be of five classes, Annual Members, Corporate Members, Life Members, Patrons and Honorary Members.

SEC. 2. Annual Members shall consist of such persons as are selected from time to time by the Board of Trustees at any of its meetings, and who shall pay an annual fee of ten dollars (\$10.00), payable within thirty days after notice of election, and within thirty days after each recurring annual date. The failure of any person to make such initiatory payment and such annual payments within said time shall, at the option of the Board of Trustees, be sufficient grounds for the forfeiture of an annual membership.

This said annual membership shall entitle the member to:

First.— Free admittance for the member and family, to the Museum on any day.

Second.— Ten tickets every year, admitting the bearer to the Museum on pay days.

Third.— A copy of all publications of the Museum when requested.

Fourth.— Invitations to all special exhibits, receptions, lectures, or other functions which may be given at the Museum.

SEC. 3. The Corporate Members shall consist of the persons named in the articles of incorporation, and of such other persons as shall be chosen from time to time by the Board of Trustees at any of its meetings, upon the recommendation of the Executive Committee; provided, that such persons named in the articles of incorporation shall, within ninety days from the adoption of these By-Laws, and persons hereafter chosen as Corporate Members shall, within ninety days of their election, pay into the treasury the sum of twenty dollars (\$20.00) or more. The failure of any person to make such payment within said time, shall, at the option of the Board of Trustees, be ground for forfeiture of his corporate membership. Corporate Members becoming Life Members, Patrons or Honorary Members shall be exempt from dues. Annual meetings of said Corporate Members shall be held at the same place and on the same day that the annual meeting of the Board of Trustees is held.

SEC. 4. Any person paying into the treasury the sum of five hundred dollars (\$500.00), at any one time, shall, upon the unanimous vote of the Board, become a Life Member. Life Members shall be exempt from all dues.

SEC. 5. Patrons shall be chosen by the Board upon recommendation of the Executive Committee from among persons who have rendered eminent service to the Museum. They shall be exempt from all dues, and, by virtue of their election as Patrons, shall also be Corporate Members.

SEC. 6. Honorary Members shall be chosen by the Board from among persons who have rendered eminent service to science, and only upon unanimous nomination of the Executive Committee. They shall be exempt from all dues.

ARTICLE II.

BOARD OF TRUSTEES.

SECTION 1. The Board of Trustees shall consist of fifteen members. The respective members of the Board now in office, and those who shall hereafter be elected, shall hold office during life. Vacancies occurring in the Board shall be filled at a regular meeting of the Board, upon the nomination of the Executive Committee made at a preceding regular meeting, by a majority vote of the members of the Board present.

SEC. 2. Regular meetings of the Board shall be held on the second Monday of each month. Special meetings may be called at any time by the President, and shall be called by the Secretary upon the written request of three Trustees. Five Trustees shall constitute a quorum, except for the election of officers or the adoption of the Annual Budget, when seven Trustees shall be required, but meetings may be adjourned by any less number from day to day, or to a day fixed, previous to the next regular meeting.

SEC. 3. Reasonable written notice, designating the time and place of holding meetings, shall be given by the Secretary.

ARTICLE III.

HONORARY TRUSTEES.

SECTION 1. As a mark of respect, and in appreciation of services performed for the Institution, those Trustees who by reason of inability, on account of change of residence, or for other cause, or from indisposition to serve longer in such capacity, shall resign their place upon the Board, may be elected, by a majority of those present at any regular meeting of the Board, an Honorary Trustee for life. Such Honorary Trustee will receive notice of all meetings of the Board of Trustees, whether regular or special, and will be expected to be present at all such meetings and participate in the deliberations thereof, but an Honorary Trustee shall not have the right to vote.

ARTICLE IV.

OFFICERS.

SECTION 1. The officers shall be a President, a First Vice-President, a Second Vice-President, a Secretary, an Assistant Secretary and a Treasurer. They shall be chosen by ballot by the Board of Trustees, a majority of those present and voting being necessary to elect. The President, the First Vice-President, and the Second Vice-President shall be chosen from among the members of the Board of Trustees. The meeting for the election of officers shall be held on the second Monday of January of each year, and shall be called the Annual Meeting.

SEC. 2. The officers shall hold office for one year, or until their successors are elected and qualified, but any officer may be removed at any regular meeting of the Board of Trustees by a vote of two-thirds of all the members of the Board. Vacancies in any office may be filled by the Board at any meeting.

SEC. 3. The officers shall perform such duties as ordinarily appertain to their respective offices, and such as shall be prescribed by the By-Laws, or designated from time to time by the Board of Trustees.

ARTICLE V.

THE TREASURER.

SECTION 1. The Treasurer shall be custodian of the funds of the Corporation, except as hereinafter provided. He shall make disbursements only upon warrants drawn by the Director and countersigned by the President. In the absence or inability of the Director, warrants may be signed by the Chairman of the Finance Committee, and in the absence or inability of the President, may be countersigned by one of the Vice-Presidents. But no warrants shall be issued, except in conformity with a regularly prepared voucher, giving the name of the payee and stating the occasion for the expenditure, and verified and approved as hereinafter prescribed. It shall be no part of the duties of the Treasurer to see that the warrants have been issued in conformity with such vouchers.

SEC. 2. The securities and muniments of title belonging to the corporation shall be placed in the custody of some Trust Company of Chicago to be designated by the Board of Trustees, which Trust Company shall collect the income and principal of said securities as the same become due, and pay same to the Treasurer, except as hereinafter provided. Said Trust Company shall allow access to and deliver any or all securities or muniments of title to the joint order of the following officers, namely: The President or one of the Vice-Presidents, jointly with the Chairman, or one of the Vice-Chairmen, of the Finance Committee of the Museum.

SEC. 3. The Treasurer shall give bond in such amount, and with such sureties, as shall be approved by the Board of Trustees.

SEC. 4. All vouchers executed for the payment of liabilities incurred in the administration of the Museum, shall be verified by the Auditor, and approved for payment by the Director, and the Chairman of the Administration Committee. All vouchers executed for expenditures for the construction or reconstruction of the Museum building, or buildings, shall be verified by the Auditor and approved for payment by the Chairman of the Building Committee. All vouchers executed in connection with the investments of the Corporation, or in any way having to do with the endowment funds of the Corporation, shall be verified by the Auditor and approved for payment by the Chairman of the Finance Committee.

SEC. 5. The Harris Trust and Savings Bank of Chicago shall be Custodian of "The N. W. Harris Public School Extension of Field Museum" fund. The Bank shall make disbursements only upon warrants drawn by the Director and countersigned by the President. In the absence or inability of the Director, warrants may be signed by the Chairman of the Finance Committee, and in the absence or inability of the President, may be countersigned by one of the Vice-Presidents. But no warrant shall be issued, except in conformity with a regularly prepared voucher, giving the name of the payee and stating the occasion for the expenditure, and verified and approved as hereinafter prescribed. It shall be no part of the duties of the Bank to see that the warrants have been issued in conformity with such vouchers.

ARTICLE VI.

THE DIRECTOR.

SECTION 1. The Board of Trustees shall elect a Director of the Museum, who shall remain in office until his successor shall be elected. He shall have immediate charge and supervision of the Museum, and shall control the operations of the institution, subject to the authority of the Board of Trustees and its Committees. The

Director shall be the official medium of communication between the Board, or its Committees, and the scientific staff and maintenance force.

SEC. 2. There shall be four scientific departments of the Museum — Anthropology, Botany, Geology and Zoölogy, each under the charge of a Curator, subject to the authority of the Director. The Curators shall be appointed by the Board upon the recommendation of the Director, and shall serve during the pleasure of the Board. Subordinate staff officers in the scientific departments shall be appointed and removed by the Director upon the recommendation of the Curators of the respective Departments. The Director shall have authority to employ and remove all other employees of the Museum.

SEC. 3. The Director shall make report to the Board at each regular meeting, recounting the operations of the Museum for the previous month. At the Annual Meeting, the Director shall make an Annual Report, reviewing the work of the Museum for the previous year, which Annual Report shall be published in pamphlet form for the information of the Trustees and Members, and for free distribution in such number as the Board may direct.

ARTICLE VII.

AUDITOR.

SECTION 1. The Board shall appoint an Auditor, who shall hold his office during the pleasure of the Board. He shall keep proper books of account, setting forth the financial condition and transactions of the Corporation, and of the Museum, and report thereon at each regular meeting, and at such other times as may be required by the Board. He shall certify to the correctness of all vouchers for the expenditure of the money of the corporation.

ARTICLE VIII.

COMMITTEES.

SECTION 1. There shall be five Committees as follows: Finance, Building, Auditing, Administration and Executive.

SEC. 2. The Finance and Auditing Committees shall each consist of three members, and the Building and Administration Committees shall each consist of five members. All members of these four Committees shall be elected by ballot by the Board at the Annual Meeting, and shall hold office for one year, and until their successors are elected and qualified. In electing the members of these Committees, the Board shall designate the Chairman and Vice-Chairman by the order in which the members are named in the respective Committee; the first member named shall be Chairman, the second named the Vice-Chairman, and the third named, Second Vice-Chairman, succession to the Chairmanship being in this order in the event of the absence or disability of the Chairman.

SEC. 3. The Executive Committee shall consist of the President of the Board, the Chairman of the Finance Committee, the Chairman of the Building Committee, the Chairman of the Administration Committee, the Chairman of the Auditing Committee, and two other members of the Board to be elected by ballot at the Annual Meeting.

SEC. 4. Four members shall constitute a quorum of the Executive Committee; three members shall constitute a quorum of the Administration Committee, and in all other standing Committees, two members shall constitute a quorum. In the



HABITAT GROUP. GREAT BLUE HERRON (*Ardea herodias*)
Field-Sprague Ornithology Fund.

event that, owing to the absence or inability of members, a quorum of the regularly elected members cannot be present at any meeting of any Committee, then the Chairman thereof, or his successor, as herein provided, may summon any member of the Board of Trustees to act in place of the absentee.

SEC. 5. The Finance Committee shall have supervision of investing the endowment and other permanent funds of the Corporation, and the care of such real estate as may become its property. It shall have authority to invest, sell, and reinvest, funds, subject to the approval of the Board.

SEC. 6. The Building Committee shall have supervision of the construction, reconstruction, and extension of any and all buildings used for Museum purposes.

SEC. 7. The Executive Committee shall be called together from time to time as the Chairman may consider necessary, or as he may be requested to do by three members of the Committee, to act upon such matters affecting the administration of the Museum as cannot await consideration at the Regular Monthly Meetings of the Board of Trustees. It shall, before the beginning of each fiscal year, prepare and submit to the Board an itemized Budget, setting forth the probable receipts from all sources for the ensuing year, and make recommendations as to the expenditures which should be made for routine maintenance and fixed charges. Upon the adoption of the Budget by the Board, the respective Committees shall be considered as authorized to make the expenditures detailed therein. No increase in the expenditures under any items of the Budget shall be made, except by authority of the Board of Trustees, but the Executive Committee shall have authority, in cases of emergency, to expend a further total sum not exceeding two thousand dollars in any one month.

SEC. 8. The Administration Committee shall have general supervision of the affairs of the Museum. The Committee shall hold one meeting each month with the Director at the Museum within a week preceding each Monthly Meeting of the Board of Trustees.

SEC. 9. The Auditing Committee shall have supervision over all accounting and bookkeeping, and full control of the financial records. It shall cause the same, once each year, or oftener, to be examined by an expert individual or firm, and shall transmit the report of such expert individual or firm to the Board at the next ensuing regular meeting after such examination shall have taken place.

SEC. 10. The Chairman of each Committee shall report the acts and proceedings thereof at the next ensuing regular meeting of the Board.

SEC. 11. The President shall be ex-officio a member of all Committees and Chairman of the Executive Committee. Vacancies occurring in any Committee may be filled by ballot at any regular meeting of the Board.

ARTICLE IX.

NOMINATING COMMITTEE.

SECTION 1. At the November meeting of the Board, each year a Nominating Committee of three shall be chosen by lot. Said Committee shall make nominations for membership of the Finance Committee, the Building Committee, the Administration Committee, and the Auditing Committee, and for two members of the Executive Committee, from among the Trustees, to be submitted at the ensuing December meeting and voted upon at the following Annual Meeting in January.

ARTICLE X.

SECTION 1. Whenever the word "Museum" is employed in the By-Laws of the Corporation, it shall be taken to mean the building in which the Museum as an Institution is located and operated, the material exhibited, the material in study collections, or in storage, furniture, fixtures, cases, tools, records, books, and all appurtenances of the Institution, and the workings, researches, installations, expenditures, field work, laboratories, library publications, lecture courses, and all scientific and maintenance activities.

SEC. 2. These By-Laws may be amended at any regular meeting of the Board of Trustees by a two-thirds vote of all the members present, provided the amendment shall have been proposed at a preceding regular meeting.

HONORARY MEMBERS.

EDWARD E. AYER	STANLEY McCORMICK
HARLOW N. HIGINBOTHAM	ROBERT F. CUMMINGS
CHARLES B. CORY	MRS. TIMOTHY B. BLACKSTONE
NORMAN W. HARRIS	
DECEASED.	
GEORGE M. PULLMAN	
MARY D. STURGES	

PATRONS.

ALLISON V. ARMOUR	GEORGE MANIERRE
JOSEPH N. FIELD	JOHN S. MILLER
ERNEST R. GRAHAM	JOHN BARTON PAYNE
NORMAN W. HARRIS	FREDERICK W. PUTNAM
VERNON SHAW KENNEDY	FREDERICK J. V. SKIFF
WILLARD A. SMITH	
DECEASED.	
DANIEL H. BURNHAM	WILLIAM I. BUCHANAN
EDWIN WALKER	

CORPORATE MEMBERS.

ADAMS, GEORGE E.	HIGINBOTHAM, H. N.
ALDIS, OWEN F.	HUTCHINSON, CHARLES L.
ARMOUR, ALLISON V.	
AYER, EDWARD E.	JONES, ARTHUR B.
BARTLETT, A. C.	KENNEDY, VERNON SHAW
BLACK, JOHN C.	KOHLSAAT, HERMAN H.
BLAIR, WATSON F.	
BLATCHFORD, ELIPHALET W.	LATHROP, BRYAN
BUTLER, EDWARD B.	
	McCORMICK, CYRUS H.
CHALMERS, W. J.	MANIERRE, GEORGE
CHATFIELD-TAYLOR, H. C.	MILLER, JOHN S.
CLARK, JOHN M.	MITCHELL, JOHN J.
CRANE, RICHARD T., JR.	
	PAYNE, JOHN BARTON
EASTMAN, SIDNEY C.	PECK, FERD. W.
ELLSWORTH, JAMES W.	PORTER, GEORGE F.
	PUTNAM, FREDERICK W.
FIELD, JOSEPH N.	
FIELD, STANLEY	REAM, NORMAN B.
	RYERSON, MARTIN A.
GAGE, LYMAN J.	
GETTY, HENRY H.	SKIFF, FREDERICK J. V.
GRAHAM, ERNEST R.	SMITH, BYRON L.
GUNSAULUS, FRANK W.	SMITH, WILLARD A.
GUNTHER, C. F.	SPRAGUE, A. A.
	SPRAGUE, A. A., 2D.
HARRIS, NORMAN W.	STONE, MELVILLE E.
HEAD, FRANKLIN H.	

DECEASED.

ARMOUR, PHILIP D.	McCAGG, E. B.
BAKER, WILLIAM T.	McCLURG, A. C.
BISSEL, GEORGE F.	McNALLY, ANDREW
BUCHANAN, W. I.	PATTERSON, ROBERT W.
BUCKINGHAM, EBENEZER	PEARCE, J. IRVING
BURNHAM, DANIEL H.	PETERSON, ANDREW
CRAWFORD, ANDREW	PULLMAN, GEORGE M.
CURTIS, WILLIAM E.	SCHNEIDER, GEORGE
DAVIS, GEORGE R.	SCOTT, JAMES W.
FITZSIMONS, CHARLES	STOCKTON, JOSEPH
HALE, WILLIAM E.	WALKER, EDWIN
HARPER, WILLIAM R.	WALLER, R. A.
HATCH, AZEL F.	WALSH, JOHN R.
JACKSON, HUNTINGTON W.	WILLIAMS, NORMAN
LEITER, L. Z.	

LIFE MEMBERS.

ADAMS, GEORGE E.	JOHNSON, FRANK S.
ALDIS, OWEN F.	JOHNSON, MRS. ELIZABETH AYER
	JONES, ARTHUR B.
BARRETT, MRS. A. D.	
BARRETT, ROBERT L.	KEEP, CHAUNCEY
BARTLETT, A. C.	KING, FRANCIS
BLACKSTONE, MRS. TIMOTHY B.	KING, JAMES C.
BLAINE, MRS. EMMONS	KIRK, WALTER RADCLIFFE
BLAIR, CHAUNCEY J.	
BLAIR, HENRY A.	LAWSON, VICTOR F.
BLAIR, WATSON F.	
BOOTH, W. VERNON	McCORMICK, MRS.
BUTLER, EDWARD B.	McCORMICK, CYRUS H.
BYLLESBY, H. M.	McCORMICK, HAROLD F.
	MacVEAGH, FRANKLIN
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CARTON, L. A.	
CHALMERS, WILLIAM J.	NEWELL, A. B.
CRANE, RICHARD T., JR.	
CUMMINGS, D. MARK	ORR, ROBERT M.
DEERING, CHARLES	PAM, MAX
DELANO, FREDERIC A.	PIKE, EUGENE S.
DRAKE, TRACY C.	PORTER, GEORGE F.
	PORTER, H. H., JR.
FARWELL, WALTER	
FAY, C. N.	REAM, MRS. CAROLINE P.
FIELD, STANLEY	REAM, NORMAN B.
FULLER, WILLIAM A.	REVELL, ALEX. H.
	ROSENWALD, JULIUS
GARTZ, A. F.	RUSSELL, EDMUND A.
GRISCOM, CLEMENT A.	RYERSON, MRS. CARRIE H.
GROMMES, JOHN B.	RYERSON, MARTIN A.
HAMILL, ERNEST A.	SCHLESINGER, LEOPOLD
HILL, LOUIS W.	SINGER, C. G.
HOROWITZ, L. J.	SMITH, BYRON L.
HOXIE, MRS. JOHN A.	SMITH, ORSON
HUGHITT, MARVIN	SPRAGUE, A. A.
HUTCHINSON, C. L.	SPRAGUE, A. A., 2D.
	STURGES, GEORGE
INGALLS, M. E.	
ISHAM, MRS. KATHIERINE	THORNE, GEORGE R.
PORTER.	
	WILLARD, ALONZO J.

ANNUAL MEMBERS.

ADAMS, CYRUS H.
ADAMS, MILWARD
ALLERTON, ROBERT H.
ARMOUR, GEORGE A.

BAILEY, EDWARD P.
BANGA, DR. HENRY
BARRELL, JAMES
BECKER, A. G.
BILLINGS, C. K. G.
BILLINGS, DR. FRANK
BIRKHOFF, GEORGE, JR.
BOAL, CHARLES T.
BOUTON, C. B.
BROWN, WILLIAM L.
BURLEY, CLARENCE A.

COMSTOCK, WILLIAM C.
CONOVER, CHARLES H.
COONLEY-WARD, MRS. L. A.
CORWITH, CHARLES R.
COWAN, W. P.
CRANE, CHARLES R.
CUDAHY, JOHN
CUMMINGS, E. A.
CURTIS, D. H.

DAY, A. M.
DEERING, JAMES
DEERING, WILLIAM
DILLMAN, L. M.

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FORSYTH, ROBERT
FRANK, HENRY L.
FULLER, O. F.
FÜRST, CONRAD

GAYLORD, FREDERIC
GLESSNER, J. J.
GOODRICH, A. W.

GORDON, EDWARD K.
GREY, CHARLES F.
GREY, WILLIAM L.
GURLEY, W. W.

HARDING, AMOS J.
HARRIS, GEORGE B.
HARRIS, JOHN F.
HASKELL, FREDERICK T.
HERTLE, LOUIS
HIBBARD, WILLIAM G., JR.
HITCHCOCK, R. M.
HOLT, GEORGE H.
HOPKINS, JOHN P.
HORNER, ISAAC

INSULL, SAMUEL

JENKINS, GEORGE H.
JONES, J. S.

KEEFER, LOUIS
KEITH, W. SCOTT
KIMBALL, EUGENE S.
KIMBALL, MRS. MARK

LAMB, FRANK H.
LAY, A. TRACY
LEFENS, THIES J.
LEIGH, EDWARD B.
LINCOLN, ROBERT T.
LINN, W. R.
LOGAN, F. G.
LORD, J. B.
LOWDEN, FRANK O.
LYTTON, HENRY C.

McCREA, W. S.
McWILLIAMS, LAFAYETTE
MacFARLAND, HENRY J.
MAGEE, HENRY W.
MANSON, WILLIAM
MANSURE, E. L.
MAYER, LEVY
MERRYWEATHER, GEORGE



IGOROT WOMEN SPINNING AND WEAVING.

(One of four miniature reproductions in case for the N. W. Harris Public School Extension of The Field Museum of Natural History.

MEYER, MRS. M. A.
MILLER, CHARLES P.
MOORE, L. T.
MOORE, N. G.
MORRIS, EDWARD
MULLIKEN, A. H.
MULLIKEN, CHARLES H.

NATHAN, ADOLPH
NOLAN, JOHN H.
NORTON, O. W.
NOYES, LA VERNE W.

OEHNE, THEODORE
ORB, JOHN A.
OSBORN, HENRY A.

PALMER, PERCIVAL B.
PARKER, FRANCIS W.
PEARSON, EUGENE H.
PINKERTON, W. A.
PORTER, WASHINGTON

RIPLEY, E. P.
ROSENBAUM, JOSEPH
ROSENFELD, MRS. MAURICE
RUNNELLS, J. S.

SCHMIDT, DR. O. L.
SCHWARTZ, G. A.
SEIPP, MRS. C.
SELZ, MORRIS
SHEDD, JOHN G.
SKINNER, THE MISSES
SOPER, JAMES P.
SOUTHWELL, H. E.
SPENCE, MRS. ELIZABETH E.
SPOOR, J. A.
STOCKTON, JOHN T.
STUART, ROBERT

TEMPLETON, THOMAS
TOBEY, FRANK B.

UIHLEIN, EDWARD G.

WACKER, CHARLES H.
WALKER, JAMES R.
WALKER, WILLIAM B.
WALLER, EDWARD C.
WEBSTER, GEORGE H.
WHITE, A. STAMFORD
WHITEHEAD, W. M.
WILSON, MRS. E. C.
WILSON, M. H.
WOODCOCK, LINDSAY T

DECEASED.

FRASHER, JOHN E. L.
SEARS, JOSEPH

SEIPP, W. C.

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THE BOARD OF TRUSTEES.

GEORGE E. ADAMS.	ARTHUR B. JONES.
EDWARD E. AYER.	GEORGE MANIERRE.
WATSON F. BLAIR.	CYRUS H. MCCORMICK.
WILLIAM J. CHALMERS.	GEORGE F. PORTER.
STANLEY FIELD.	MARTIN A. RYERSON.
HARLOW N. HIGINBOTHAM.	FREDERICK J. V. SKIFF.
A. A. SPRAGUE, 2nd.	

HONORARY TRUSTEES.

OWEN F. ALDIS.	NORMAN B. REAM.
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DECEASED.

NORMAN WILLIAMS.	GEORGE R. DAVIS.
MARSHALL FIELD, JR.	HUNTINGTON W. JACKSON.
EDWIN WALKER.	

OFFICERS.

STANLEY FIELD, *President.*

MARTIN A. RYERSON, *First Vice-President.*

WATSON F. BLAIR, *Second Vice-President.*

FREDERICK J. V. SKIFF, *Secretary.*

D. C. DAVIES, *Assistant Secretary and Auditor.*

BYRON L. SMITH, *Treasurer.*

COMMITTEES.

EXECUTIVE COMMITTEE.

STANLEY FIELD.

EDWARD E. AYER.

WILLIAM J. CHALMERS.

WATSON F. BLAIR.

GEORGE MANIERRE.

HARLOW N. HIGINBOTHAM.

MARTIN A. RYERSON.

FINANCE COMMITTEE.

WATSON F. BLAIR.

MARTIN A. RYERSON.

ARTHUR B. JONES.

BUILDING COMMITTEE.

WILLIAM J. CHALMERS.

CYRUS H. McCORMICK.

FREDERICK J. V. SKIFF.

A. A. SPRAGUE, 2nd.

SUB-COMMITTEE OF BUILDING COMMITTEE

STANLEY FIELD.

A. A. SPRAGUE, 2nd.

FREDERICK J. V. SKIFF.

AUDITING COMMITTEE.

GEORGE MANIERRE.

ARTHUR B. JONES.

GEORGE E. ADAMS.

ADMINISTRATION COMMITTEE.

EDWARD E. AYER.

WATSON F. BLAIR.

GEORGE MANIERRE.

ARTHUR B. JONES.

GEORGE F. PORTER.

STAFF OF THE MUSEUM.

DIRECTOR.

FREDERICK J. V. SKIFF.

DEPARTMENT OF ANTHROPOLOGY

GEORGE A. DORSEY, *Curator.*

BERTHOLD LAUFER, *Associate Curator of Asiatic Ethnology.*

CHARLES L. OWEN, *Assistant Curator Division of Archæology.*

ALBERT B. LEWIS, *Assistant Curator of African and Melanesian Ethnology.*

FAY COOPER COLE, *Assistant Curator Physical Anthropology and Malayan Ethnology.*

DEPARTMENT OF BOTANY.

CHARLES F. MILLSAUGH, *Curator.*

B. E. DAHLGREN, *Assistant Curator Division of Economic Botany.*

HURON H. SMITH, *Assistant Curator Division of Dendrology.*

DEPARTMENT OF GEOLOGY.

OLIVER C. FARRINGTON, *Curator.* H. W. NICHOLS, *Assistant Curator.*

ELMER S. RIGGS, *Assistant Curator of Paleontology.*

ARTHUR W. SLOCOM, *Assistant Curator Section of Invertebrate Paleontology.*

DEPARTMENT OF ZOOLOGY.

CHARLES B. CORY, *Curator.*

SETH E. MEEK, *Assistant Curator.*

WILFRED H. OSGOOD, *Assistant Curator of Mammalogy and Ornithology.*

WILLIAM J. GERHARD, *Assistant Curator Division of Entomology.*

EDMOND N. GUERET, *Assistant Curator Division of Osteology.*

RECORDER.

D. C. DAVIES.

THE LIBRARY.

ELSIE LIPPINCOTT, *Librarian.*

THE N. W. HARRIS PUBLIC SCHOOL EXTENSION

S. C. SIMMS, *Curator.*

ANNUAL REPORT OF THE DIRECTOR.

1913

To the Trustees of Field Museum of Natural History:

I have the honor to present a report of the operations of the Museum for the year ending December 31, 1913.

A review of the year's activities, while not without the broader and more striking interest of expedition research and survey in various parts of the world, shows that the labor performed, the material progress made, has been very largely within the walls of the Institution in continuance and enlargement of the plans of the past two years in preparing exhibition material for the New Building. This work not only includes the installation of material that has not been on exhibition but the re-installation of exhibited material and the re-labeling of the latter. So well have the different departments devoted their energies to this task that the orderly and systematic physical appearance of the Museum has ceased to elicit commendation from visitors or contemporaries. The great number of installed new cases for which space is continually demanded from the already crowded floor area has interlocked the installation of departments and divisions to a degree that must be confusing to visitors, as it certainly is most unsatisfactory to the management. If the pressure for space continues, as it seems likely it will do, some portions of the Museum must be closed off as an improvised warehouse where cases can be stored without any relation to passage-ways or any regard for the convenience of visitors. In some of the courts and halls the circulation provisions have been reduced to two-foot passage-ways which really almost prohibits an inspection of the contents of the cases.

The Joseph N. Field Ethnological expedition to the South Sea Islands concluded its three years' studies and collections, and Dr. Lewis, the head of the expedition, has returned and for several months has been engaged in cataloguing, labeling and installing this most prized collection. It is now quite apparent that the great extent of this collection will not permit its complete installation for several years, though from its abundance a notable representation will be on view within the coming year. In addition to the fund provided by Mr. Joseph N. Field for the field work of this South Pacific expedition, a further and large sum was contributed by Mr. Field for the purchase of an important collection of

masks from New Britain and ethnological material from German New Guinea.

The South American Zoölogical expedition is still in the field, being last reported as in Southern Brazil with splendid results. The consignments of material from the field reach the Museum at intervals of about three months, and, as will be seen from the report on the Department of Zoölogy made elsewhere, is giving the greatest satisfaction to the department.

The Museum is the grateful beneficiary of the results from a private expedition to British East Africa and adjacent territories under Mr. Brent Altscheler of Louisville, Kentucky, a hunter, a lover of science, and a friend of the Museum.

The announcement of the Hon. R. M. Barnes of Lacon, Illinois, that he had constituted Field Museum of Natural History legatee under his will for his collection of more than 24,000 birds' eggs was received by the authorities of the Museum with the greatest satisfaction, for not only is this act regarded as a high testimonial to the worthiness of the Museum and an evidence of extending confidence in its purposes and performances, but it is of a great value to the Division of Ornithology to be assured that eventually this great collection will be added to its resources.

The progress made by the N. W. Harris Public School Extension during the year, and the interest that the public and the Chicago schools system have manifested in this exhibition of collections from the Museum in the public schools, have encouraged the founder in this philanthropy, and inspired with zeal the organization which is dispensing it. The preliminary stages in the difficult task of getting this undertaking in full operation have been passed; the experimental period is practically over, and when a few details, yet to be arranged with the Superintendent of Schools have been determined upon, the regular distribution of these cabinets will be begun. The force of scientific men and preparators under the guidance of the efficient curator of this foundation have a great many cabinets and cases completed, and recently, at the request of the Council for Library and Museum Extension, made an exhibition of a number of the collections at the Art Institute, which was very well attended and very cordially commended.

MAINTENANCE.—The cost of maintenance for the year amounted to \$170,000, which was \$5,000 less than the amount authorized by the Board of Trustees for the year ending December 31, 1913. The total amount expended for all purposes was \$237,100, being \$1,000 less than the previous year. The difference between the cost of maintenance and the actual amount expended is accounted for by special appropriations for the purchase of collections, and the cost of extensive repairs to

the roof of the building. The building itself can be considered as being in good repair, yet the overhanging cornices which are rapidly deteriorating occasion a certain amount of anxiety and are promptly removed as conditions demand. During the year the entire building was thoroughly examined by an expert assigned for this inspection by D. H. Burnham & Company, the architects. The report states that all brick work is in first class shape, as is also the structural steel in the columns and girders. The staff work throughout the interior of the building was found to be in good condition. The skylights were also reported as being in good state. A special request was made that this expert examine the floor loads throughout the building, and it is gratifying that the report states that much care had been exercised in this respect and where an unusually heavy load is concentrated the floor had been thoroughly reinforced in each instance.

LECTURE COURSES.—The lecture courses have been particularly interesting and well attended. They have been participated in by distinguished scholars and students in the various branches of the natural sciences, and acknowledgment is here made of the generosity and good will which this participation manifests toward the Museum.

Thirty-eighth free illustrated lecture course, delivered during the months of March and April, 1913.

March 1.—“A Look into South America.”

Prof. Rollin D. Salisbury, The University of Chicago.

March 8.—“Fossil Collecting.”

Mr. A. W. Slocum, Assistant Curator, Division of Invertebrate Paleontology, Field Museum.

March 15.—“Cultural and Somatic Evidences of Man's Antiquity.”

Prof. George Grant MacCurdy, Yale University.

March 22.—“Spain — Country and People.”

Mr. Arthur Stanley Riggs, New York.

March 29.—“Newfoundland.”

Prof. M. L. Fernald, Harvard University.

April 5.—“Wild Flowers of the Chicago Region.”

Dr. C. F. Millspaugh, Curator, Department of Botany, Field Museum.

April 12.—“Crossing the Andes of Northern Peru.”

Mr. W. H. Osgood, Assistant Curator of Mammalogy and Ornithology, Field Museum.

April 19.—“Logging California Redwoods.”

Mr. Huron H. Smith, Assistant Curator, Division of Dendrology, Field Museum.

April 26.—“Religious and Artistic Thought in China.”

Dr. Berthold Laufer, Associate Curator of Asiatic Ethnology, Field Museum.

Thirty-ninth free illustrated lecture course, delivered during the months of October and November, 1913.

Oct. 4.—“Korea.”

Mr. Homer B. Hulbert, Springfield, Massachusetts.

Oct. 11.—“The Scenery and Resources of Alaska.”

Prof. Lawrence Martin, University of Wisconsin.

Oct. 18.—“The Physical Basis and Determination of Sex.”

Dr. Horatio H. Newman, The University of Chicago.

Oct. 25.—“Our Forests.”

Mr. Huron H. Smith, Assistant Curator of Dendrology, Field Museum.

Nov. 1.—“Zoological Collecting in South America.”

Mr. Wilfred H. Osgood, Assistant Curator of Mammalogy and Ornithology, Field Museum.

Nov. 8.—“The Inhabitants of Fresh Water.”

Dr. Victor E. Shelford, The University of Chicago.

Nov. 15.—“Migration of Plants.”

Prof. L. H. Pammel, Iowa State College.

Nov. 22.—“The Joseph N. Field South Pacific Expedition.”

Dr. A. B. Lewis, Assistant Curator of African and Melanesian Ethnology, Field Museum.

Nov. 29.—“New Zealand.”

Dr. Carlos E. Cummings, Buffalo Society of Natural Sciences.

PUBLICATIONS.—The publications of the Museum have appeared as usual from time to time as opportunity presented itself. The list includes eight numbers of the established series, details of which follow:

Pub. 165.—Report Series, Vol. IV, No. 3. Annual Report of the Director to the Board of Trustees for the year 1912. 90 pages, 14 half-tones. Edition 2500.

Pub. 166.—Zoological Series, Vol. X, No. 8. New Species of Fishes from Panama. By S. E. Meek and S. F. Hildebrand. 15 pages. Edition 1500.

Pub. 167.—Ornithological Series, Vol. I, No. 7. Descriptions of Twenty-eight New Species and Subspecies of Neotropical Birds. By C. B. Cory. 10 pages. Edition 1500.

Pub. 168.—Zoological Series, Vol. X, No. 9. New Peruvian Mammals. By W. H. Osgood. 9 pages. Edition 1500.

- Pub. 169.—Anthropological Series, Vol. XIII, No. 1. Notes on Turquois in the East. By Berthold Laufer. 72 pages, 1 colored plate, 7 halftones. Edition 2000.
- Pub. 170.—Anthropological Series, Vol. XII, No. 2. The Wild Tribes of Davao District, Mindanao. By F. C. Cole. 153 pages, 1 colored map, 75 halftones, 62 zinc etchings. Edition 1500.
- Pub. 171.—Geological Series, Vol. IV, No. 3. New Trilobites from the Maquoketa Beds of Fayette County, Iowa. By A. W. Sloom. 41 pages, 6 halftones, 1 zinc etching. Edition 1500.
- Pub. 172.—Botanical Series, Vol. II, No. 9. I. The Genera *Pedilanthus* and *Cubanthus* and other American Euphorbiaceæ. By C. F. Millspaugh. II. Two New Stonecrops from Guatemala. By Raymond Hamet. 27 pages. Edition 1500.

NAMES ON MAILING LIST

Domestic	614
Foreign	<u>693</u>
	1,307

DISTRIBUTION OF FOREIGN EXCHANGES

Argentina Republic	12	India	13
Australia	29	Italy	35
Austria-Hungary	31	Jamaica	2
Belgium	17	Japan	9
Borneo	1	Java	4
Brazil	9	Liberia	1
British East Africa	2	Malta	1
British Guiana	2	Mexico	20
Bulgaria	1	Natal	3
Canada	29	Netherlands	21
Cape Colony	6	New Zealand	7
Ceylon	3	Norway	8
Chile	2	Peru	2
China	2	Portugal	5
Colombia	2	Rhodesia	2
Costa Rica	4	Roumania	1
Denmark	9	Russia	16
East Africa	1	Salvador	1
Ecuador	1	Sicily	3
Egypt	2	Spain	7
France	55	Straits Settlements	1
Fiji Islands	1	Sweden	15
Finland	2	Switzerland	23
Germany	138	Tasmania	3
Great Britain	119	Transvaal	3
Greece	2	Uruguay	1
Guatemala	1	West Indies	3

DISTRIBUTION OF PUBLICATIONS (FOREIGN)

Anthropological	308	Ichthyological	165
Botanical	366	Ornithological	205
Entomological	162	Report	693
Geological	357	Zoological	298

DISTRIBUTION OF DOMESTIC EXCHANGES

Alabama	2	New Jersey	14
Arkansas	1	New Mexico	2
California	28	New York	84
Colorado	11	North Carolina	6
Connecticut	21	North Dakota	2
Delaware	2	Ohio	22
District of Columbia	65	Oklahoma	2
Florida	2	Oregon	1
Idaho	1	Pennsylvania	35
Illinois	71	Rhode Island	5
Indiana	16	South Carolina	2
Iowa	15	South Dakota	2
Kansas	6	Tennessee	2
Kentucky	3	Texas	2
Louisiana	4	Utah	1
Maine	7	Vermont	4
Maryland	9	Virginia	4
Massachusetts	65	Washington	6
Michigan	12	West Virginia	6
Minnesota	9	Wisconsin	17
Mississippi	3	Wyoming	2
Missouri	12	Cuba	3
Montana	2	Hawaii	5
Nebraska	7	Philippine Islands	3
Nevada	3	Porto Rico	1
New Hampshire	4		

DISTRIBUTION OF PUBLICATIONS (DOMESTIC)

Anthropological	230	Ichthyological	150
Botanical	300	Ornithological	158
Geological	311	Report	614
Historical	159	Zoological	263

THE LIBRARY.—The accessions to the Library during the year numbered 4,003, an increase over last year of 1,737. Of these additions 3,908 were received by gift or exchange and 95 by purchase. The volumes and pamphlets in the Library are credited to the different Departments, as follows:

General Library	41,102
Department of Anthropology	3,008
Department of Botany	6,444
Department of Geology	8,751
Department of Zoology	<u>2,931</u>
Total	662,23



GROUP OF TROPICAL AMERICAN FISHES.

GROUP OF TROPICAL AMERICAN FISHES.

TIGER SHARK (*Galeorhynchus tigrinus*) WITH 38 YOUNG.

Publications were received from 808 individuals and institutions. A special effort was made to increase the useful collections of separata. Requests for reciprocation with equivalent literature were made to all authors who are receiving the publications of the Museum, and who had not done so hitherto. The response to date is gratifying, some four hundred titles having been received. The securing of these additions, the effecting of new exchanges, the obtaining of missing parts to fill in or to complete sets, involved the writing of approximately 1,000 letters. From the translators and commentators, Mr. and Mrs. Herbert Clark Hoover, London and New York City, was received a copy of Georgius Agricola *De Re Metallica*, translated from the first Latin edition of 1556, with biographical introduction, annotations, etc. With copies of the original editions of 1621 and 1657 in the library, this gift of an accurate translation of this classic in mineralogical literature is highly prized. The library was also the recipient of a copy of the second volume of the J. Pierpont Morgan Catalogue of Porcelains. Other gifts of value received were from Mr. G. R. Agassiz, Cambridge, Mass.; Mr. William D. Boyce of Chicago; Mr. Arthur De Selm, Kankakee, Illinois; Mr. Martin A. Ryerson, Chicago; Mr. William Schaus, Washington, D. C.; Mr. Charles D. Walcott, Washington, D. C.; Imperial Botanical Gardens, St. Petersburg, Russia; Japan Society, London, England; Royal Academy of Science, Vienna, Austria; École des Langues Orientales Vivantes, Paris, France; The Natural History Museum of Hamburg, Germany; the Natural History Society of Hannover, Germany; U. S. Department of Commerce and Labor; the Smithsonian Institution and Yale University Library, New Haven. A notable accession of the year was the literature received with the collection of Ward-Coonley meteorites. The late Mr. Ward had collected over three thousand titles, 1,250 new to this Library, covering the years 1620-1906. This addition to the literature already on the Museum shelves places this library in the front rank on this particular subject. Among the most important purchases were: Le Coq, Chotscho; Gorer & Blacker, Chinese porcelain and hard stones; Dufour, Le Bayon d'Angkor Thom bas-reliefs; Brabourne & Chubb, Birds of South America; Giebel & Liche, Mammalia, 1874-1913; Martius & Spix, Reise in Brasilien, 1817-20.

The books, periodicals and pamphlets bound during the year number 1,021. The proper sequence of the accessions has had to be sacrificed to make more readily accessible the books most in demand. Two cases discarded for installation purposes by the Departments were fitted with shelves and placed in the General Reading Room and filled with works of a general character. All duplicate material has been packed

in boxes. There have been written and inserted in the various catalogues 22,570 cards.

DEPARTMENTAL CATALOGUING, INVENTORING AND LABELING. — In no previous year in the history of the Department of Anthropology have so many cases been installed with their full complement of labels. At least 150 cases have been fully labeled. It is confidently believed that no more adequate labeling could have been accomplished than that which now prevails throughout the Chinese and Philippine collections recently installed. For the Chinese collection alone over 2,600 labels have been printed. There have been entered in the inventory books of the Department nearly 3,000 catalogue cards, which were about equally divided between the Blackstone Chinese Collection and the Field South Pacific Islands Collection. The Chinese archaeological collection has been completely catalogued and the cataloguing of the Tibetan material is well advanced. Assistant Curator Lewis has written approximately 3,000 catalogue cards of the South Pacific Islands collections, which are ready to be entered in the inventory books. These have not yet been turned over to the Cataloguer, but are retained for further reference in connection with the installation of the material which they chronicle.

The cataloguing of the specimens of all accessions received during the year in the Department of Botany is complete to date, and 31,624 sheets of the larger accessions of previous years have also been catalogued. All new installations have received their labels so far as they have been secured from the printer. Copy has been written for 1,033 labels, of which 290 are still in the hands of the printer.

The principal work of cataloguing performed in the Department of Geology was that of the Ward-Coonley meteorite collection. All of this collection to the number of 1,661 specimens has been carefully catalogued. All other material received during the year has likewise been fully catalogued. The material so catalogued includes 784 economic specimens, 1,034 of minerals and about 400 of fossils. For the card catalogue of vertebrate paleontology 72 descriptive cards were written. Books to the number of 282 and 1,355 pamphlets were added to the Department library during the year, and 1,004 cards were added to the card catalogue of the library, making a total of 3,618 cards now comprising the Departmental library catalogue. To the Department photographic albums 185 prints have been added since the last report, making a total of 2,685 photographs now contained in these albums. All of these photographs are fully labeled. The preparation of labels for the exhibition series during the year has principally been concerned with replacing labels of the old buff cardboard type by those of current type. In connection with this work constant revision of the labels has been

carried on and any improvements deemed desirable in the text or style of labels have been made. Series which have been labeled in this way in full during the year include the asbestos collection, the collections of Lake Superior and Manhattan Island rocks, ores of copper, zinc, iron and many minor metals, the collections of concretions, stalactites, rock textures, etc., the glaciated slabs and other specimens in Alcove 103 and the soda collection. Many of these collections contain descriptive labels which were rewritten in order that the information given might be as fresh and up-to-date as possible, or improved in form. For this purpose or for newly installed material 65 descriptive labels were written during the year. Newly installed material was provided with labels as fast as received during the year and practically all specimens now on exhibition are provided with labels of the latest Museum pattern. New series labeled during the year include the graphite collection, several series illustrating uses of metals, a series of Patagonian fossils, of miscellaneous fossil mammals and a large number of invertebrate fossils. The series of blast furnace models, Hall 34, was also supplied with fully descriptive labels. The total number of labels prepared during the year was 3,215, of which 2,902 were printed and installed.

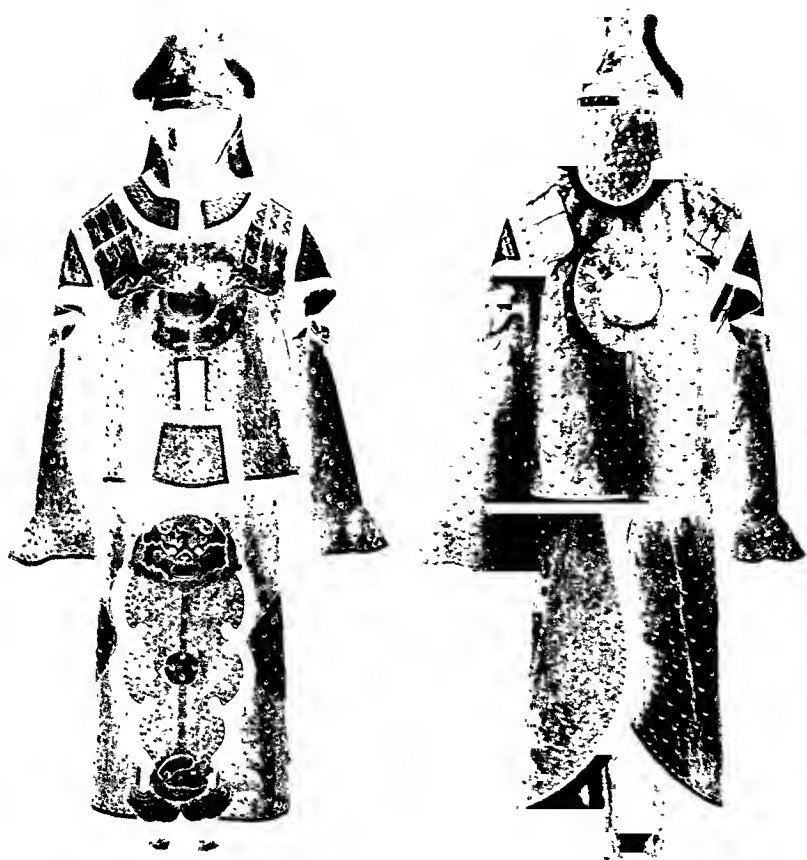
The Curator of Zoology reports that cataloguing has proceeded in this Department as usual and all accessions received during the year have been properly entered. In the classified card catalogue much progress has been made both in Ornithology and Mammalogy. Catalogue cards to the number of 350 have been written for mammals which represent more than 1,000 entries. For birds 400 cards have been written and 22 distribution maps have been labeled, the former numbering 1,200 entries. The card check list of the specimens of South American mammals has been increased to approximately 800 cards. New labels were provided for the serial collection of exotic birds. The Costa Rican collection of fishes obtained by Assistant Curator Meek has been partially catalogued.

The year's work in the Museum on catalogues and inventories is shown in detail below:

	No. of Record Books	Total No. of Entries to Dec. 31, 1913	Entries During 1913	Total No. of Cards Written
Department of Anthropology	36	126,530	3,000	130,781
Department of Botany	57	404,965	41,781	40,711
Department of Geology	21	128,036	4,020	7,659
Department of Zoölogy	40	91,905	2,975	30,034
The Library	14	95,865	1,054	164,692
Section of Photography	10	107,268	5,714	.....

ACCESSIONS.—The most important accessions of the year in the Department of Anthropology were those resulting from the Joseph N.

Field Expedition to the South Pacific. These not only include the material collected by Dr. Lewis, but several thousand specimens selected and purchased by the Curator from a dealer in Hamburg. As a result of the expedition and the purchase mentioned, the Department now possesses one of the most important and extensive collections of South Pacific ethnology. It is not possible at this time to state accurately the total number of specimens, but it is believed that it will exceed 20,000. The large number of specimens from most of the islands of Melanesia makes the collection of supreme importance. The collection from the Admiralty Islands is probably unique, for it not only comprises a series of fine carvings and a large series of specimens illustrating all phases of ordinary material culture of the islanders, but more than 30 carved beds, 20 huge carved drums, and 60 great bowls with highly decorated handles. From the Baining Mountains, New Britain, are no less than 11 ceremonial masks, unmatched in character. The series of prepared skulls from New Hebrides runs into the hundreds; of prepared skulls from New Guinea there are more than a thousand. Collections from the Kaiserin Augusta region of German New Guinea are especially rich and beautiful, comprising among other examples 4 feather masks 15 feet in height. The series of carved drums and house ornaments from New Caledonia adds to the effectiveness of an already rich collection from this interesting island. While the bulk of material acquired during the year must be credited to Mr. Field, yet the Department has made other important accessions. An especially notable acquisition is that of 157 ancient and wonderful bone carvings of intrinsic interest, assembled in China by that distinguished Chinese scholar and missionary Mr. F. H. Chalfant of Pittsburgh, Pennsylvania. It is Dr. Laufer's opinion that these objects rank among the most ancient relics known of Chinese antiquity and that they were originally used for purposes of divination. The oracles and decisions given in reply to them by the seers are carved into the surface of the bone and present the oldest form of Chinese writing now extant; hence their remarkable interest. Among the carvings represented are alligators of a surprisingly realistic form, dragons, tortoises, snakes, and replicas of weapons, bells, and implements; again there are imitations of shell money and specimens of ancient cowry-shells actually used in lieu of money. Somewhat similar collections are to be found in the museums of Pittsburgh, Edinburgh, London, and Berlin, but according to Mr. Chalfant this institution has secured the finest and most valuable series ever taken from China. This interesting and valuable acquisition was made possible through the generosity of Mrs. T. B. Blackstone. To the generosity of Prince Damrong, brother of the late King of Siam, the Museum is indebted for the



PARADE UNIFORM, FRONT AND BACK, OF OFFICER IN ATTENDANCE ON THE EMPEROR IN THE PALACE, PEKING, CHINA (XVIIIITH CENTURY).

gift of four Buddhist votive offerings of clay stamped with Buddhist subjects, excavated on the site of an ancient temple in Trang province, Siam. These objects are of great value inasmuch as the Museum possesses similar specimens from China and Tibet. In connection with this gift the Museum is indebted to Dr. C. S. Braddock of New York, through whose mediation the tablets were forwarded to the Museum. Mr. Gotfryd Anderson of Chicago and of the China Inland Mission presented to the Museum a Tibetan ink-drawing on yellow silk, mounted on Chinese brocade, representing Buddha surrounded by deities and saints. Of acquisitions made by purchase the two most important pertain to China. One is an excellent specimen of the parade uniform of an official in attendance at the imperial palace of Peking. It dates from the 18th century, and is in an unusually good state of preservation. The uniform is of silk almost solidly embroidered with heavy gold thread which is in practically perfect condition. The steel helmet of the uniform bears chased dragons in gold and is decorated with inlaid kingfisher feathers and painted eagle pinions. The uniform is accompanied with bow case and quiver, and studded with gilt brass ornaments, and the chest in which the whole is packed when not in use. From the British Museum the Museum purchased a color-print reproduction of the famous painting attributed to Ku K'ai-chi. A copy of O. Franke's book on Agriculture and Sericulture in China was acquired to make use of the 91 plates for exhibition purposes. These embrace an interesting series of wood cuts executed in 1210, of which but one copy is thus far known, found by Dr. Laufer in a bookshop of Tokyo and now deposited in the John Crerar Library. The whole series of plates is shown on a screen, individual labels being printed on the mats, and affords a good idea of the various stages of farming and the processes of weaving.

The Curator of Botany reports important additions to the Herbarium of which the following may be noted: Arsene & Nicolas, Mexico 1159; Britton & Shafer, St. Thomas 125, St. Jan 71; W. E. Broadway, Tobago 227; Brumback & Davies (Misses), Colorado 222; W. P. Carr, South Dakota 101; Clemens Mrs., Montana 51, Utah 50; Dr. Dalziel, Nigeria 59; Judge DeSelm, Illinois 775, Michigan 68; A. D. E. Elmer, Philippines 1000; Padre Fuertes, San Domingo 658; Wm. Harris, Jamaica 420; J. H. Hart, Jamaica 94; Dr. Haydon, Oregon 128; A. A. Heller, Nevada 196; Hungarian Natl. Museum, Hungary 109; Frank W. Johnson, Indiana 52; C. F. Millsbaugh, Wisconsin 65, Illinois 56; John Macoun, Vancouver Isl. 74; C. A. Purpus, Mexico 359; J. A. Shafer, Cuba 198; Shafer & Leon, Cuba 53; H. H. Smith, Indiana 69, Illinois 108, California 681, Sta. Catalina Isl. 159; Tilden, Josephine, New

South Wales 77, Victoria 399, Tahiti 94; S. S. Visser, South Dakota 663; Vanoverburgh, Philippines 507.

Status of the organization of larger Herbaria purchases:

Herbarium	Organized 1913.	completely organized.
Bebb, M. S.	.	31,583
Chicago University	10,361	44,048
Heller, A. A.	.	.
Hitchcock, A. S. (Fla.)	.	7,078
Millspaugh, C. F.	.	5,002
Patterson, H. A.	.	37,887
Rothrock, J. T.	.	22,809
Schott, Dr. A.	.	8,428
Shuette, J. H.	10,990	10,990
Small, J. K.	10,273	19,381
Wahlstedt, L. J.	.	17,555

The additions to the organized Herbarium are shown in the following geographically arranged table:

	Added to Herbarium 1913.	Total now in Herbarium.
NORTH AMERICA (in general)	9	140
Alaska (in general)	23	553
Mary's Island	1	1
Unalaska Island	1	32
Canada (in general)	13	2,015
British Columbia	32	1,012
Labrador	11	178
Kurnavik Island	3	3
Manitoba	1	259
New Brunswick	28	780
Nova Scotia	46	194
Ontario	49	624
Pr. Edward Island	2	11
Quebec	24	145
Queen Charlotte Island	6	6
Saskatchewan	1	363
Vancouver Island	130	361
Yukon	1	69
Newfoundland	4	716
Greenland	39	203
Disco Island	4	43
United States		
Alabama	285	1,333
Arizona	79	9,442
Arkansas	142	417
California	1,895	23,854
Santa Catalina Island	159	184
Colorado	863	11,781

NORTH AMERICA (in general)

	Added to Herbarium 1913.	Total now in Herbarium.
United States		
Connecticut	222	541
Dakota . . .	3	38
North Dakota	300	701
South Dakota	935	1042
Delaware . .	125	1,588
District of Columbia	385	2,352
Florida	778	20,693
Georgia . . .	105	4,554
Idaho	362	3,244
Illinois . . .	1,831	20,640
Indiana	649	5,863
Indian Territory	27	281
Iowa	303	1,761
Kansas	127	499
Kentucky	269	1,204
Louisiana . .	47	1,282
Maine	61	1,613
Maryland . .	127	1,079
Massachusetts	216	3,122
Mexican Boundary	3	1,355
Michigan . . .	501	3,931
Minnesota	698	1,598
Mississippi	69	2,031
Missouri . . .	525	3,015
Montana	520	4,026
Nebraska . . .	173	413
Nevada	264	1,011
New Hampshire	123	1,481
New Jersey	590	2,013
New Mexico	281	2,953
New York	626	6,046
North Carolina	2,063	4,557
Ohio	134	1,670
Oklahoma . . .	105	287
Oregon	334	7,858
Pennsylvania	1,586	10,845
Rhode Island	48	592
Rocky Mountains	13	1,391
South Carolina	268	1,015
Tennessee	226	1,452
Texas	977	9,708
Utah	250	2,948
Vermont	114	2,660
Virginia	2,356	4,673
Washington (State)	92	6,340
West Virginia	31	1,840
Wisconsin	6,908	8,088
Wyoming	75	929
Yellowstone National Park	35	435

	Added to Herbarium 1913.	Total now in Herbarium.
CENTRAL AMERICA:		
Mexico (in general)	1,859	34,269
Lower California	85	1,811
Cedros Island	1	165
Yucatan	19	4,690
Costa Rica	17	552
Guatemala	26	2,881
Honduras	1	341
Nicaragua	3	88
San Salvador	2	23
WEST INDIES:		
Anagada	23	23
Antigua	1	13
Bermuda	6	650
Cuba	344	9,767
Isle of Pines	1	654
Jamaica	522	7,080
Porto Rico	8	4,000
Saint Kitts	2	12
San Jan	71	76
Little San Jan	7	7
Saint Thomas	175	620
Buck Island	3	3
Santo Domingo	666	1,378
Tobago	204	513
Tortola	32	32
Trinidad	13	478
Virgin Gorda	5	5
SOUTH AMERICA (in general)		
Brazil	113	510
British Guiana	1	71
Chile	3	252
Colombia	3	2,423
Ecuador	15	849
Juan Fernandez	3	3
Magellan	2	40
Peru	31	90
Venezuela	2	1,063
Bonaire Island	2	2
Curacao Island	27	42
EUROPE (in general)		
Austria-Hungary	4	83
Bavaria	2	2
Belgium	3	75
Dalmatia	3	3
France	133	4,524
Germany	231	7,098
Great Britain:		
England	116	679
Ireland	9	161

		Added to Herbarium 1913.	Total now in Herbarium.
EUROPE (in general)			
Great Britain			
Scotland		22	493
Wight, Isle of		3	34
Greece		5	525
Italy		106	2,491
Mediterranean Islands:			
Crete		1	8
Malta		2	7
Sardinia		2	7
Sicily		1	110
Norway		3	219
Portugal		2	11
Finland		40	95
Scandinavia		3	19
Spain		4	139
Sweden		324	823
Gotland Island		5	203
Lapland		24	231
Switzerland		271	2,614
ASIA:			
Afghanistan		1	2
Arabia		13	17
Armenia		1	175
Asia Minor (in general)			
Asiatic Turkey (in general)			
Anatolia		2	2
Mesopotamia		1	1
Syria		3	75
China		64	323
Mongolia		1	1
East Indies		3	3
Japan		75	295
Formosa		17	54
Java		1	101
Malaya		7	27
Persia		2	21
Philippine Islands		1167	5,648
Palawan		1,000	1,000
Siam		3	6
Siberia		19	429
Turkestan		3	92
AFRICA (in general)			
Abyssinia		24	217
Algeria		6	30
Angola		1	11
Cape Colony		14	81
Central Africa		3	3
Congo		1	1
Egypt		1	23
Gold Coast		1	1

	Added to Herbarium 1913.	Total now in Herbarium
AFRICA (in general)		
Mauritius . .	1	9
Morocco . . .	1	7
Mozambique . .	7	7
North Africa . .	63	205
Somaliland . .	4	4
South Africa . .	10	1,243
Uganda . . .	4	4
Zanzibar . . .	26	75
OCEANIA (in general)		
Australia (in general)	424	2,343
New South Wales . . .	111	525
North Australia . . .	10	15
Queensland . . .	7	26
South Australia . . .	1	1
Victoria . . .	488	488
West Australia . . .	10	42
Cooks Islands . .		
Raratonga . . .	29	29
New Zealand . . .	2	2,755
Samoa . . .	40	103
Sandwich Islands . .	10	462
Tahiti . . .	94	180
Tasmania . . .	1	191
Timor . . .	1	4
HORTICULTURAL . . .	613	2,622
ILLUSTRATIONS, DRAWINGS, etc., mounted as herbarium sheets . . .	58	1,012

The total increase of the organized herbarium during the year amounted to 41,401 specimens.

Several interesting and valuable accessions were received by the Department of Geology. Of especial interest were two gold nuggets obtained in the California gold fields in 1850, presented by Mr. William J. Chalmers; also a quantity of silver nuggets from Lake Superior. A fine series of lead minerals and mercury ores was presented by Christopher Murphy. Six slabs of standard museum size of Georgia marble illustrating different varieties of this marble were presented by the Georgia Marble Company; 13 slabs of Vermont marble, similarly prepared, were presented by the Vermont Marble Company; and three slabs of Canadian marble, likewise of standard size, by the Dominion Marble Company. A large mass weighing 400 pounds, of Versailles, Missouri, fire clay was presented by the W. S. Dickey Clay Manufacturing Company, and six varieties of pottery and other clays from various localities by the Land and Industrial Department of the Southern Railway. A series of 14 specimens illustrating a natural change of pyrite to hematite,

as seen at Copete, Mexico, presented by Francis C. Nicholas, was of much interest, as was also a series of 10 specimens illustrating the concentration of iron ores by washing, presented by the Oliver Mining Company. The Joseph Dixon Crucible Company presented an interesting series of 24 specimens illustrating uses of graphite, and the H. W. Johns-Manville Company 19 specimens illustrating the uses of asbestos. The Heath & Milligan Manufacturing Company presented 13 specimens of buhrstones and pigments. A series of 10 specimens of lead and silver ores from a new locality in California was presented by Dr. T. A. Dumont, and a large specimen of allanite used as an ore of rare earths, by A. C. Richards. A fine example of manufactured Monel metal was presented by the Biddle Hardware Company. About 1,000 specimens of varieties of agate and jasper from Oregon were presented by C. H. Marsh, and a series of about 50 ores and minerals, chiefly from Montana and illustrating ores of historic interest, was received from J. L. Rosenberger. Prof. R. D. Salisbury presented several specimens of obsidian nodules from Patagonia and some diamondiferous sand from Brazil, secured on his recent trip to South America. Through the kindness of Prof. Salisbury also 225 specimens of copper ores and concentrates were received from the Braden Copper Company, Rancagua, Chile. This suite was very complete in representing all phases of occurrence of the ore and many varieties of ore. By exchange with the University of California a valuable accession was received in a skeleton of *Canis diurus*, an extinct wolf from the asphalt beds near Los Angeles, California. By exchange with the United States National Museum a section of the Perryville meteorite was obtained and one of the Nakhla meteorite was obtained in a similar manner from the Egyptian Geological Survey. Specimens of the Tepl and St. Germain meteorites were also obtained by exchange, and some specimens of minerals, a trilobite, and a skull of the fossil camel *Stenomylus*, the latter from Amherst College. The most important purchase was that of the Davis Mountains, Texas, meteorite, which was obtained entire. The entire mass of the Pickens County, Georgia, meteorite was also purchased, a section of the St. Michel meteorite and an unusual specimen of pollucite from Maine.

The Department of Zoology received extensive accessions in all of its several divisions. The most important accessions of the year were those received from the Museum collectors in South America, which is shown by the fact that they contained 38 new species and subspecies; 28 of birds and 10 of mammals. These have been described in Museum publications and the types have materially added to the value of the collections. In addition to these a very valuable collection of hummingbirds, numbering 501 specimens and representing about 386 species and

subspecies, was obtained by purchase. This is a part of the great private collection of humming-birds belonging to the famous French naturalist, M. Adolph Boucard, and is especially important since many of the specimens are cotypes or paratypes of species described by him. Mention should also be made of a small but valuable collection of South American birds and mammals purchased from a dealer in Merida, Venezuela, containing 6 mammals and 235 bird skins, together with 42 humming-birds' nests and eggs, several species being very rare. Mr. John M. Studebaker of South Bend, Indiana, presented the Museum with a pair of American Elk, or Wapiti, which he killed a number of years ago in Colorado, and Mr. G. F. Steele of Chicago gave the Museum a number of mounted heads of Deer, Caribou, Goats, and one of the American Bison. A notable addition to the Osteological collection is the skeleton of *Cænolestes obscurus* from Columbia, which was mounted and installed and is the only known example on exhibition in any museum in the world. In the Division of Entomology an important addition was a collection of butterflies and moths from Key Islands. Among this lot were six specimens, three males and three females, of the magnificent butterfly *Troides priamus poseidon*. These will form a welcome addition to the exhibit series. Chiefly from expeditions, 649 fishes were added to the collections in the Division of Ichthyology and several hundreds through exchange, mention of which is elsewhere in this report.

EXPEDITIONS AND FIELD WORK.—The Assistant Curator of African and Melanesian Ethnology, Dr. A. B. Lewis, returned to resume his duties in the Museum last June, having completed his four years' pilgrimage in the South Pacific among the Melanesian Islands, in charge of the Joseph N. Field South Pacific Islands Expedition. The early months of the winter Dr. Lewis spent in Dutch New Guinea, traversing the north coast as far east as Humboldt's Bay. From this point he proceeded to Batavia, Java, where he spent two weeks packing up the collections and studying in the museum in that city. He returned to Europe via Singapore, Rangoon, and India, where he visited the chief museums and the chief centers of ethnologic interest. May was spent visiting the principal museums of Italy, Austria, Germany, Holland, and England. About 12,000 specimens were secured by this expedition. If to these are added the number of specimens secured by purchase and from the Curator's expedition into Melanesia, the total should approximate 20,000. Assistant Curator Owen returned to the Museum in May after a visit of several months among the Hopi Indians of Arizona. As a result of this expedition the Museum secured 50 boxes of additional specimens to be added to the already existing Hopi collection, all of

which work has been made possible through the generosity of Mr. Stanley McCormick. Mr. Owen was especially fortunate on this occasion in securing a large number of old specimens of a sacred nature which heretofore had not been attainable. The number of specimens exceed 800, including, for the first time, a complete set of all known gourd vessels used by the Hopi; a complete set of earthenware vessels used for household or ceremonial purposes; some 50 tihus or decorative wooden images, either decided variants from those already in the collection or entirely new to the collection; many fine old Katsina masks and headdresses; a complete series of objects illustrating the manufacture of shell beads; textiles, which include garments in the loom and every variety of weave known to the Hopi; complete sets of weaving implements; entire set of baskets and basket material from the Third Mesa; ceremonial paraphernalia, both for altars and costumes; raw materials, foodstuffs, etc. While in the Southwest the Assistant Curator secured identifications and additional information for about 50 tihus, some of which have been on exhibition in the Museum since its foundation. Many old masks were also identified and information obtained for their proper labeling. Over 150 photographs were made of winter ceremonials, especially of Katsina dances held only at that time of the year. Measurements and photographs were made of a typical Hopi spring, as well as of wooden figurines of certain Hopi divinities, both for purposes of reproduction in the Hopi Halls. Early in the year the Curator was granted a month's leave of absence to accept an invitation to deliver four lectures at Cambridge University, England. During this time he visited the museums of Hamburg and Berlin, and made a careful and exhaustive study of the East Indian Museum in London.

The material results of the work of the Assistant Curator of the Division of Dendrology of last season reached the Museum early in the year. The collections comprise many hundred photographic negatives of trees, tree growth, and forest conditions and operations; 215 tree trunks, "wheels," and boards; 80 dried fruits, seeds, and barks; 885 herbarium specimens and 2,275 duplicates for exchange purposes. During the present year the Dendrologist has spent his time in preparatory work in the Department, making two short field trips only in Indiana where he procured several tree specimens and photographs, 125 herbarium specimens, and 300 duplicates for exchange.

A journey made by the Curator of Geology to western Texas resulted in securing for the Museum an iron meteorite of a hitherto unknown fall. It is the largest individual specimen but one now in the Museum meteorite collection. The weight of this individual is 1,520 pounds. Besides its large size, it is of interest for its marked orientation

and for containing an appreciable quantity of platinum. The Assistant Curator of Paleontology secured by a trip to Grovertown, Indiana, a well preserved skull and nearly complete lower jaw of the extinct giant beaver, *Castoroides*. By using previously obtained remains of this species in connection with this skull it is probable that a mounted skeleton of this rare and interesting animal can be prepared. The Assistant Curator of Invertebrate Paleontology collected 182 specimens of invertebrate fossils at Little Traverse Bay, Michigan.

Field work in South America in the interest of the Department of Zoölogy was continued with excellent results. Through co-operation with a Brazilian government expedition in charge of Roderic Crandall, the collectors in the field, M. P. Anderson and R. H. Becker, were enabled to reach, and work at small expense, regions difficult of access; namely, the upper parts of the Rio Branco and the Mountains of the Moon near the boundary between Brazil and British Guiana. Important collections of birds and mammals were made and several fine examples of large mammals were obtained which will be used for habitat groups already planned. Mr. Anderson returned to the Museum in May, and Mr. Becker continued work in Brazil on the lower Amazon River and subsequently in the arid region of extreme eastern Brazil, in the Province of Ceara, whence he proceeded southward to Bahia and inland to the San Francisco River. The results of this work are mainly the acquisition of typical forms of vertebrate life, fresh material representing species many of which were described by early explorers and absolutely essential to any accurate knowledge of the fauna. Mr. Anderson, after a needed change in a northern climate, again entered the field, leaving here in October, commencing work in the little known Catatumbo region in northwestern Venezuela. An expedition to Alaska by Taxidermist Friesser proved highly successful. By permission of the Secretary of Agriculture, Mr. Friesser secured four selected specimens of the Alaskan Moose, the skins and skeletons being carefully prepared. Samples of vegetation, photographs, and all needed accessories for a striking group of these animals were obtained, as well as desirable specimens of birds and the smaller mammals, including Alaskan Porcupines, Squirrels, Ptarmigan, Owls, etc. Some local field work was done by the Curator of Zoology including a short trip to Vilas County, Wisconsin, where photographs for studies in group work, and migration notes to be used in maps illustrating the range of various species, were secured. In addition to the expeditions named above mention is made of the African expedition undertaken by Mr. Brent Altscheler of Louisville, Kentucky, in the interest of the Department of Zoology, to whose generosity in this particular reference is made elsewhere in this report.

The following is a list of the expeditions:

Locality	Collector	Material
Brazil . . .	R. L. Becker	Mammals and Birds.
Brazil, Peru and Venezuela	M. P. Anderson	Mammals and Birds.
Monterey, California	W. Heim	Fishes.
Baird, California	W. Heim	Fishes.
Alaska, Seward Peninsula	J. Friesser	Mammals.
Indiana .	H. H. Smith	North American Forestry.
Arizona	C. L. Owen	Ethnological Material.
Melanesia	A. B. Lewis	Ethnological Material.
Indiana	E. S. Riggs .	Vertebrate Fossils.
Michigan	A. W. Slocum	Invertebrate Fossils.
Texas .	O. C. Farrington	Meteorites.
British East Africa	B. Altscheler	Mammals and Birds.

INSTALLATION, REARRANGEMENT, AND PERMANENT IMPROVEMENT.—The capacity of the staff and the assistants in the Department of Anthropology has been fully tested this year, for besides the routine work an extraordinary amount of new work has been performed. Over 150 new cases have been placed on permanent exhibition, practically all of them fully and completely labeled. In addition to these, 15 standard cases installed in recent years have been rearranged, for such rearrangement seemed necessary on account of the acquisition of new material. More than 250 boxes, many of them of huge dimensions, have been unpacked and the contents assorted into temporary storage cases. All of this has required an extensive rearrangement and readjustment, but the time has now come when there is practically no room, outside the three small halls still reserved for Chinese and Tibetan material, for the display of new material except at the expense of material already installed. Borneo collections were installed in 9 cases as follows: 4 Iban, 2 Malay, 1 Milanau, 2 Murut, 1 Kayan, and 1 Klemantan. These, together with 2 cases of Andaman Island material and one of Nicobar installed this year, and a case of Malay Peninsula material representing the primitive culture of the Semang and Sakai, have been placed in Hall 8 where they completely fill up the aisles and block the cases of prehistoric pottery from the Southwest. That hall now, though one of the most prominently placed halls in the Department, is merely a confused storage hall. Practically the entire Javanese collection has been reinstalled, which was necessary because most of it was installed in old and inadequate cases. This collection now occupies Hall 54. To provide adequate space in the East Annex for the completion of the Philippine collections and the rapidly expanding Chinese and Tibetan collections, other changes than those already noted were necessary. First, all the Melanesian material, except the large canoes suspended from the ceiling

and the large house posts attached to the wall, was removed from Hall 67 and transferred to the West Annex, where it is no longer available to the public. Again, the entire contents of Hall 66, consisting of a dozen cases devoted to Polynesia, Micronesia, and so on, were transferred to the West Annex. These collections also are no longer available to the public. But more serious was the enforced withdrawal from public exhibition of all the African collections, which now occupy a temporary resting place in a hall in the West Annex. While the Department has never maintained an expedition in Africa and while this African material has been acquired in an indirect and, consequently, more or less unsatisfactory manner, yet, from certain regions, the collections are of importance and have distinctive value, and they certainly deserve a better fate than to be placed in storage. The Philippine collections are now completely installed and occupy Halls 37, 38, 39, 40, 41, 42, 54, and 57. During the year 15 Philippine cases were reinstalled — a necessity because of the acquisition of new material — and the following cases were installed for the first time: 1 Batak, 1 Ilocano, 1 Mangyan, 9 Ilongot, 4 Ifugao, 1 Tingian, 1 Igorot, 1 Amburayan Igorot, 1 Guinnan, 6 Mandayan, 1 Bagobo, and 1 Pulunan. Besides, special cases have been prepared for certain spirit houses, planting sticks, and other objects requiring cases of special dimensions. A large group, to occupy a case 12 feet square, showing various phases of activity of the Bagobo represented by 7 figures modeled from life, is near completion and will soon be ready for installation. In the Northwest Coast Halls, 4 cases have been added—3 Salish and 1 Chilcotin—of material presented to the Museum by Mr. Homer E. Sargent. Besides these, 3 cases of Thompson River material were reinstalled. To the Southwest Section have been added 2 new cases of pottery from the Hopi pueblos, 1 case of Navaho masks, 2 cases of Apache costumes, a case of Colorado River baskets, and 3 cases of decorated pueblo shields and buffalo robes. The installation of this material has necessitated a certain amount of rearrangement in Halls 2, 3, and 7. Every case in the Gem Room containing ethnologic material has been subjected to a careful revision, classification, and labeling. In the Chinese Section installation has progressed in a satisfactory and efficient manner. There have been 69 new cases installed, besides three special exhibits requiring platforms or bases. The mediæval mortuary clay figures formerly shown on screens have been installed anew on shelves, and being now exposed in full light, their attractions can now be viewed and studied to best advantage. Five halls in the East Annex were fully installed which with Hall 44 are now devoted to East-Asiatic material. Hall 45 is mainly devoted to a display of the ceramic arts, 4 cases illustrating in historical development the most

prominent types of porcelain, three others containing faience, and three funeral images to which a marble sarcophagus and a glazed pottery coffin are joined. The other cases embrace miscellaneous material temporarily arranged; viz., coins, seals, and medals, Chinese and Tibetan silver jewelry, ancient bone carvings, and Buddhist votive offerings of clay. The object of the exhibits in the adjoining Hall 46 and 47 is to illustrate the religions of China—Confucianism, Taoism, Buddhism, and Islamism. Sixteen cases are now on view. Confucianism is illustrated by the most important portraits of Confucius and scenes in his life and career in examples chosen from the work of the best Chinese artists. The other religions are presented by a large number of paintings, rubbings, and statues of bronze, iron, and pottery. The principle of arrangement is simultaneously chronological and according to subject-matter. The important event of the year in matters of installation proved to be the placing on exhibition of the Chinese and Tibetan masks, and in view of complexity of the technical problem involved, due credit should be given to the Department's efficient preparators who with untiring zeal and resourcefulness have made this exhibit a success. In principle this group of exhibits essentially differs from the other Chinese exhibits. The latter are analytic in depicting certain periods and facts; the former are synthetic, presenting in their totality an essential and vital organ of Eastern life, and spontaneously convey a feeling of reality. Three Chinese maps, one of the year 1136 and two printed in 1461 with the imperial preface, have been hung in Hall 44. Six clearly engraved maps of China, due to the courtesy of the National Geographic Society of Washington, have been distributed over the various halls. The appearance of Hall 44 described in the last report has been improved in various ways: by the addition of labels, the reinstallation of the case containing ancient specimens of body armor increased by an important specimen obtained by purchase, and above all by the installation in wall cases of the two large painted scrolls presented by the Tuesday Art and Travel Club and appreciated in the last report. The silk tapestry acquired last year and a wood-cut reproduction of a celebrated landscape by the eminent Japanese painter Sesshu (obtained by Dr. Laufer in Tokyo) have been added to this wall, which now presents a unique spectacle of beauty of line and color. In this manner, not only is the best possible advantage taken of the wall space, but also the most efficient and impressive background is secured for the case exhibits. It was thought, for instance, very appropriate to include here Sesshu's famed scroll, inasmuch as it is Chinese scenery sketched by the artist during his sojourn in China, and the tribute paid by him in such masterly form to the beauty of Chinese landscape is a worthy monument to adorn

a hall devoted to the civilization of China. The same reason applies to the two memorable paintings with their gay and vivid description of social and commercial life in mediæval China. The numerous scenes displayed thereon have been interpreted in detail in a series of descriptive labels freely suspended from the lower rim of the wall-case, so that the interested visitor may hold them up to his eye to suit his convenience in reading. During the year an unusual amount of work has been done by the preparators. This was caused by the unusual demands made on their time from the nature of the Chinese collections and of the material brought from the South Pacific Islands by Assistant Curator Lewis. Of the work done in the Modeling Section not a little has been in compliance with requests from the Curator in charge of the Harris Public School Extension. For work of this nature casts for many replicas of the Igorot Ethnic Group, prepared last year, have been made. For the Harris Extension also have been made the following: Ground-work and houses for 8 coal-mines; ground-work and accessories for 6 Spanish forges; ground-work for 6 gopher groups; 6 Eskimo snow houses; 8 Eskimo figures; casts of 8 gold nuggets; 16 reproductions of cacao pods; one piece-mold of cacao pod for wax casting; 6 miniature rhinoceroses; 6 miniature hippopotamuses. For the Department the following work has been done by the Section of Modeling: For the Chinese Section, 42 papier-mache display figures, besides a large number of miscellaneous rubbings, reproductions of seals, bronzes and porcelains, and iron inscriptions, etc., also reproductions of various designs for display and photography; for the North American Section, 12 papier-mache display figures, 96 moccasin forms, and 66 plaster busts; for the Philippine Section, 70 papier-mache display figures, used in installing garments, etc., ground-work for spirit houses and house models, and many miscellaneous repairs and restorations. The most important work done by the modelers during the year has been the preparation of a group to be ready early next year, intended to occupy a case 12 feet square. This will be a Bagobo group and comprise, among other things, seven figures in life-size which have all been modeled from life.

In the Department of Botany little new material for exhibition purposes has been received during the past year, though that received has been of great value to the series for installation. The principal accessions were received from The Forest Economist of India, 56 fruits, gums, oils, rubbers, and fibers; from The United States Appraiser's Stores, specimens of imports of crude drugs and other vegetable substances; E. W. Blake, California, four tree trunks and a box of fruits and nuts; The Pacific Improvement Company, California, four tree trunks; H. H. Smith, Dendrologist, 13 local medical roots; Miss Jose-

phine Tilden, 32 fruits, seeds, and gums from the South Pacific Islands; The American Trading Company of Yokohama, rice, kodzu, and bamboo papers; the N. K. Fairbank Company, 16 cottonseed oil products. Notwithstanding the small amount of material received, the public installation has progressed satisfactorily. New material has been added to the following families and the cases reinstalled to accommodate the same: The Fig Family; the Nutmeg and the Arrowroot Families; the Poison Ivy Family (2 cases); the Indian Lac Family; the Horsechestnut Family; the Mallow Family; the Pea Family; and a number of other cases readjusted. Ten new double cases were received in April. These were installed with the following material: The Grape and the Buckthorn Families; the Vegetable-tallow Family; the Milkweed Family; the Dogbane Family; the Sapodilla Family; the Verbena Family; the Ebony Family; the Joint-fir Family; interesting utilizations of the Bamboo; the Australian Beefwood Family; the Birch Family; the Mint Family; the Bean Family; the Orchid Family; the Potato Family; the Ginger Family; the Geranium Family; the Magnolia Family and the Mushrooms. The North American Forestry exhibition has been augmented by twenty-two monographic installations as follows: the Winged Elm; Bitter Hickory; Black Ash; Kentucky Coffee-tree; Hackberry; Red Birch; Sugar Maple; Blue Ash; Texan Oak; White Hickory; Persimmon; Tupelo Gum; Pecan; Sweet Gum; Pignut Hickory; Shagbark Hickory; Sassafras; Swamp Cottonwood; Southern White Oak; Overcup Oak; Red Maple; and Box Elder. Ten other species are prepared and await cases. The following productions in the Section of Modeling have played a large part in the installation accomplished during the year: Ten different, growing mushroom colonies representative of as many edible or poisonous species; a full size plant of *Mirmecodium* illustrating the peculiar utilization of its bulbous base as a nest by ant colonies; a large, natural size branch of the Great Magnolia in full leaf, flower bud, flower and fruit, reproducing the freshly opened flower as well as those of several days' anthesis; a natural size branch of the Bilimbi tree, of Sumatra, in full leaf, flower and fruit; a fruiting branch of the East Indian Carambola; an enlarged flower of the common Sorrel illustrating family characteristics; a large, leafy, fruiting, and flowering branch of the peculiar Joint-fir of the tropics which join the exogenous (wood-heart) and the endogenous (fiber-heart) trees, also an enlarged flower cluster and two enlarged flowers of the same; a full size branch of the Maidenhair tree in full leaf and fruit; an enlarged flower of the Cardamom, somewhat like a pineapple in appearance, eaten as a vegetable in the Oriental tropics; a full size cluster of leafy, flowering, and fruiting vines of the Vanilla plant; a natural size flower and leaf of

the beautiful *Cattleya* orchid displaying family characteristics; a bundle of Betel leaves to accompany the exposition of betel chewing; a large branch of *Connarus* in full fruit and leaf; a tuber of the Oriental Yams; a full size plant of the common, roadside, Milkweed in full leaf, flower, and fruit; a branch of the Persimmon in full, ripe fruit; a large sprout of the edible Bamboo as sold in the markets of China and Java; a leafy, fruiting branch of the famed Mangosteen of Java, with two fruits in section showing the edible pulp; a natural size fruit of the Guava and a section showing the seed characters; and a leafy twig bearing a pair of full ripe fruits of the Osage Orange. The Curator of Botany has conceived, and the Section of Modeling cleverly worked out, a unique method of placing before the public such microscopic plants as the germs of disease and other low orders of vegetable life. In this the microscope itself has been eliminated from the installations, its magnified field only being shown in the form of reproductions distinctly portraying the objects that it is desirable to display. In this manner the following plants, invisible to the unaided eye, have been prepared and placed on exhibition:

A field showing graphically how bacteria multiply.

Forms of Bacteria:

Rod-like (*Bacterium*, *Bacillus*, *Pseudomonas*, *Vibrio*)
 Globular (*Coccus*, *Streptococcus*, *Staphylococcus*, *Sarcina*)
 Corkscrew-like (*Spirosoma*, *Microspira*, *Spirillum*, *Spirochaete*)
 Thread-like (*Streptothrix*, *Chladothrix*, *Leptothrix*, *Gallionella*)
 Various shapes (*Spirophyllum*, *Zooglaea*, *Actinomyces*, *Chondromyces*)

The formation of spores in Bacteria.

Milk bacteria (*Bacillus*, *Streptococcus*)

Nitrifying bacteria (*Nitrosomonas*, *Nitrobacter*, *Clostridium*)

Germs of Cholera (*Microspira comma*)

Pneumonia (*Micrococcus pneumoniae*)

Tuberculosis (*Bacterium tuberculosis*)

Syphilis (*Spirochaete pallida*)

Typhoid (*Bacillus typhosus*)

Diphtheria (*Bacterium diphtheridis*)

Splenic fever (*Bacterium anthracis*)

Epidemic Meningitis (*Menigococcus*)

The cultivation of Bacteria illustrating both tube and plate cultures of several species.

In these preparations the diseased tissue is represented in color on the field, and the germs, reproduced in glass, are placed, in situ, in the tissue. In this manner there have also been placed on exhibition a number of "fields" showing diatoms in colony and individual growths as well as an exemplification of their life

history and their structure. Diatoms were formerly appreciated mainly because of their æsthetic beauty as microscope objects, but recently they are coming into prominence on account of their recognition as one of the fundamental food supplies of marine life. The series exhibited comprises:

The Barrel Diatom (*Melosira Borreri*) in colony and individual growth.
The Triangle Diatom (*Triceratium favus*) in single and dissected specimens, the latter illustrating the structural parts of diatoms.

The Bristled Diatom (*Chatoceras Lorenzianum*) in chain formation.

The Fan Diatom (*Licmorpha flabellata*) two colonies attached to an alga.

The Sun Diatom (*Planctionella Sol*), highly magnified.

The Bristling Rod Diatom (*Bacteriastrum varians*), in chain colony growth.

Two Stylus Diatoms (*Rhizosolenia styliformis* and *setigera*), in chain growth and separate individuals.

All these forms are reproduced very highly magnified to show their distinctive characters.

The meteorite collection has been entirely reinstalled in order to incorporate into it the specimens, numbering about 1,600, of the Ward-Coonley collection. As exhibition space was not available for the entire collection it was divided, the iron meteorites being installed in Alcove 106 and the stone and iron-stone meteorites in Hall 63, which is not at present open to the public. In making this reinstallation, all specimens have been placed according to the falls to which they belong so as to make the representation of the different falls as complete as possible. The installation in Alcove 106 is in the cases previously used for the collection, and that in Hall 63, in the cases obtained with the Ward-Coonley collection. All casts have been withdrawn from exhibition partly for lack of space and partly because their presence is liable to cause confusion. The installation of the meteorite collection is now complete with the exception of the Canyon Diablo specimens, the bases for which have not yet been prepared. It is intended that the Canyon Diablo specimens, when installed, will occupy a single case instead of being scattered among several as formerly. The large iron meteorite from the Davis Mountains, Texas, obtained during the year, was installed in a floor case in Alcove 106. The bases of the glacial slabs in Alcove 103 have been mahoganized and some minor changes made in the installation of this alcove. All of the collections of ores of copper, zinc, iron, and many minor metals have been removed from the upright cases in Hall 34 and reinstalled. This removal was for the purpose of tinting the interior of the cases to the uniform black color now adopted for all cases. In reinstalling these collections considerable rearrange-

ment was made in order to improve sequences and permit of the introduction of new material. The new material was in part illustrative of the uses of the metals and in part illustrative of ores and ore dressing. Among new series so added may be mentioned that received from Francis C. Nicholas illustrating the development of hematite from pyrite and that from the Oliver Mining Company showing the concentration of iron ores by washing. New illustrations of uses of metals added include series illustrating nickel plating, nickel steel, fracture and color of different alloys of copper and zinc, and glass tinting and making. The suites of six slabs of Georgia marbles, 13 slabs of Vermont marbles, and three slabs of Canadian marbles received during the year were installed in their appropriate places in the marble collection in Hall 34, some readjusting of space and specimens having been necessary for this purpose. Some additions to the collections of abrasives, asbestos, and vein formations were installed in Hall 31, and rearrangements of the series already on exhibition were made for this purpose. Nine floor cases of clays and sands have been installed in Hall 63. These cases include six cases illustrating the classification of clays, one case showing effects of different components on clays, one case of refractory materials and one case showing uses of silica. A floor case of petroleum products has also been installed in this hall and a wall case showing varieties of soils in Hall 61. Two cases of graphite and asphalt in Hall 35 were rearranged in order to add a collection illustrating the uses of graphite. A model of a coal mine, prepared for the uses of the Harris Extension Fund, was installed in Hall 34 pending its use in the schools. This model represents both the above-ground and underground equipment of a large colliery, the features shown being typical of those generally employed. Above ground are shown in miniature a tippie and fan, boiler house, machine shop and a village of miner's houses. In front of these the ground is represented as cut away to a depth of 200 feet in order to uncover the underground system of galleries and chambers. Hoisting and air shafts connect the two portions. The underground portion is worked on the panel-retreating system. Three panels are shown; one worked out and caved in, one in active production, and one just being opened. Other exhibits to the number of 20 have been prepared for the use of the Harris Extension. These include series illustrating the origin of coal, coal plants of Illinois, invertebrate fossils, ores of iron, ores of several metals, useful minerals, abrasives, glass manufacture, steel manufacture, graphite, asbestos, salt, etc. Floor cases have been placed in Halls 35 and 59 for the installation of the *Dolichorhinus* mount and the skeleton of the fossil camel *Oxydactylus*. The *Dolichorhinus* mount is the most nearly complete skeleton of this form



SKELETON OF EARLY HOOFED MAMMAL (*Uolitchonimus longirostris*) MIDDLE EOCENE OF UTAH.

in existence. It shows all but a few limb bones of a complete individual. The skeleton is mounted in a recumbent position surrounded by matrix. As the rarity of the form will probably make detailed study of its parts frequently desirable, most of the parts have been mounted in such a way that though appearing joined together, they can be easily removed for examination. The mount was prepared from material obtained by the Museum expedition to the Uintah Basin in 1910. Considerable labor was involved in preparing the mount from the fact that about half the bones were in such a distorted position as found that it was necessary to remove them entirely from the matrix before they could be brought into proper relation for mounting. In order to make room for the new cases mentioned, the cast of *Dinotherium* was removed from Hall 59 and the ichthyosaur and plesiosaur models from Hall 35. The skull of the giant beaver *Castoroides* obtained during the year was assembled with other bones of the same genus and placed on exhibition in Hall 35. A collection of remains of extinct Patagonian mammals including some portions of the earpace of a glyptodon was installed in a wall case in Hall 59 and a floor case of White River turtles was placed on exhibition in the same hall. Some rearrangement of the adjoining exhibits was made in connection with this addition. A wall case of Oligocene mammals, chiefly titanotheres, was installed in Hall 61 and one of Quaternary forms, chiefly remains of the Mammoth and Mastodon, in the same hall. In Hall 60 a case of marine Eocene mammals and other forms was installed, and in Hall 63 a table case of Miocene mammals. A wall case of Devonian invertebrate fossils was installed in Hall 61 and one of Cretaceous and Tertiary invertebrates in Hall 65. Some additions were made to the invertebrate fossils installed in Hall 33 and some rearrangement performed in this connection. The Assistant Curator devoted over three months' time to the analysis of Chinese bronzes for the Department of Anthropology. One hundred complete quantitative analyses of these bronzes were made. Other quantitative analyses made by the Assistant Curator during the year included those of the Davis Mountains and MacQuarie River meteorites. Numerous qualitative analyses have also been made in the Lake Avenue laboratory, a number of meteorite sections etched, and several preparations for the exhibition series made. The material stored in trays in Hall 61, which had in part been withdrawn from exhibition at the time of moving from the West Annex, has been carefully gone over, much condensed and provided with better protection from dust and disintegration. It has also been grouped so that every specimen is readily accessible and each specimen has been labeled sufficiently for identification. As at present arranged, the material occupies 150 wooden trays 18 x 26 inches in size.

Early in the year the paleontological laboratory was moved from the quarters temporarily occupied in the section of taxidermy to Halls 77 and 78 of the West Annex. Side windows were cut, work tables were fitted, and a sink, benches, and racks were installed in these halls. Racks for 350 trays were erected in part of Hall 78 and a sorting table provided. The semi-prepared and duplicate material was carefully arranged in these trays, and its complete preservation and accessibility thus assured. In these quarters the preparation of vertebrate and invertebrate fossils has been actively carried on through the year and a notable amount of material worked out. The most important single piece prepared during the year was a slab showing twenty-six skeletons of the fossil water deer, *Leptomeryx evansi*. This slab was collected in South Dakota in 1905. It was known at the time to be a remarkable specimen, but its great richness in individuals was only realized on its being worked out. In preparing the slab for exhibition the upper surface of the stone has been chiseled away with great care, leaving the skeletons exposed in high relief upon a background of the natural matrix. Not a bone has been disturbed from its original position in the rock. Of the twenty-six individuals shown, nine are in articulated position. Some are in a natural reclining position, while others have legs, vertebral columns or skulls dislocated and some are entirely disarticulated. The slab presents one of the most notable aggregations of fossil mammals to be found in any museum, and exceeds all in the number of individuals shown associated. The size of the slab is four by seven feet. Sufficient material was secured in connection with this to enable an articulated skeleton to be mounted for exhibition beside it. The specimen as a whole will make known for the first time the complete structure of this animal, portions of which have been known to science for sixty years. The preparation of the slab has occupied a large part of the time during the year of Preparator Abbott under the supervision of the Assistant Curator of Paleontology. Mr. Abbott was the discoverer of the specimen in the field. A large number of other valuable specimens of vertebrate fossils collected by the Museum expeditions of 1905, 1906, and 1908 in the Western States have been prepared for exhibition during the year or have been freed from their matrix so as to be readily available for study or exchange. The specimens so prepared, determined, and installed during the year include 28 miscellaneous specimens of Oligocene titanotheres, three skulls and one jaw of Miocene creodonts, four carapaces and plastrons of Miocene tortoises and one each of Oligocene tortoise and Eocene turtle. Eight specimens of Miocene horses, 12 of Miocene creodonts, 11 of Miocene camels and one each of Miocene rhinoceros and camel, were also prepared sufficiently for identification. The skeleton of *Canis diurus* received from the University of California was freed from adhering and



HABITAT GROUP OF BIRDS OF LAYSAN ISLAND. The Albatrosses in the foreground including Mat-o-war Birds, Petrels, Tropic Birds, Terns and Albatrosses, are indulging in their peculiar "dance".

inhering asphalt and made ready for mounting. Specimens of Patagonian fossil mammals, 28 in all, were also prepared, determined, and installed. The Assistant Curator of Invertebrate Paleontology has prepared and published descriptions of 12 new species and one new genus of trilobites which he collected in the Maquoketa beds of Fayette County, Iowa, and has cleaned and identified a large amount of other material which he obtained at the same localities. In addition he has mounted on labeled tablets for exhibition a large number of invertebrate fossils, the work of mounting having progressed as rapidly as the tablets could be obtained from the printer.

Several bird and mammal groups are nearing completion, but only one was actually installed during the year — a large group representing bird life on Laysan Island. This island, situated about 400 miles west of Honolulu in the mid-Pacific, has been set aside as a United States Government Bird Reservation on account of the vast number of pelagic birds that breed there. The group includes eleven species of birds (with a number of nests and eggs), among them being Petrels, Man-o'-war birds, and two species of Albatrosses. The latter are shown indulging in their peculiar "dance." The painted background shows the character of the island and the great number of birds which breed there, an illustration of environment, being of educational value. A very large group of American Bison is in the final stage of installation and will soon occupy space in the central rotunda of the Museum. This group of representative American mammals contains six Bison of varying ages, shown in a characteristic Western Plains setting, to which environment "atmosphere" has been given by the addition of a few small animals, such as prairie dog, a burrowing owl, and a rattlesnake. A large amount of taxidermy work has been planned and partly executed. Groups in various stages of completion are: Olympic Elk, Capybara and Jaguar, and a chipmunk and Spermophile group. Fresh specimens for an imposing group of Alaskan Moose and also for an Arctic bird group (Walrus Island) have been received, and work on these groups will begin at once. Five specimens of mammals have been added to the serial exhibition collection and several more are partly mounted, some of which will be completed at an early date. These are Asiatic Takin, Spectacled Bear, Kansu Deer, Mandril, and White-lipped Peccary. Some twenty specimens were added to the series of mounted birds including two examples of the exceedingly rare Trumpeter Swan, a gift from Mr. J. M. Barnes of Lacon, Illinois. During the year the attention of the Division of Entomology was given as much as possible to work that pertained directly or indirectly to the installation of exhibits. A step in this direction was the week spent in completing the work of determining local grasshoppers or Orthoptera, which, it is planned, will eventually

form a part of an exhibition series of Illinois insects. With the same end in view, some time was devoted to local bugs or Hemiptera, the insects that follow the grasshopper in scientific arrangement. At different periods, equaling about three months, the Assistant Curator of Entomology gave his attention to the spreading and labeling of exotic butterflies representing stored accessions intended for exhibition. By means of the material thus prepared, also by using the duplicates which were acquired with the Strecker collection, it will be possible to make many desirable additions to the butterfly exhibit when it is transferred to the new insect cases. The attention of the assistant was largely given to the making of life-history groups.

THE N. W. HARRIS PUBLIC SCHOOL EXTENSION OF FIELD MUSEUM OF NATURAL HISTORY. — The problem of supplying museum material to the public schools of Chicago under the auspices of The N. W. Harris Public School Extension of Field Museum has been initiated and satisfactory progress may be reported. During the first part of the year considerable time was spent in seeking information, formulating plans of operation, and inaugurating methods of procedure. While these steps were necessary and essential, approved visible results during that period were few but helpful. Considerable of this period was devoted to the development of the character and construction of a type of exhibition case. It is believed that the adopted style of case meets the requirements for stability, portability, usefulness, and appearance. It is the aim to standardize all cases, so far as the length and height are concerned. The depths of the cases has so far been determined at four, seven and ten inches. These variations of depths have met thus far the requirements of all installed material. In the very earliest stages of determining the suitability of the cases to be circulated, one very important feature had to be carefully considered. It was determined that the two framed explanatory labels which are to accompany each case to the schools should be a part of the case proper, so as to avoid leaving the labels either at the Museum or at the school when the cases were either being delivered or returned. To meet this requirement a scheme of having the two framed labels on grooves affixed to the back of the case was adopted. This arrangement permits of the labels being extended to full view on either end of each case when in use in the classroom, and of being closed flush with the cases when being transported to and from the Museum. In order to prevent as much as possible the handling of cases when in schoolrooms, and that the contents of the cases may be easily seen and studied by a number of students at one time, two hanging appliances have been attached to the top edge of the back of each case, that it may hang from hooks in the wall or upon a standard stand in full view of the classes. To lessen the occurrence of

accidents to the cases when being transported by pupils from room to room, experience clearly showed the advisability of having a light, strong handle at each end of a case. The design of a black painted wooden specimen and label holder in one piece assists not only in the rapid installation of collections, but in the general appearance of neatness and order as well. The cases and contents which are now ready for distribution among the schools, were designed with the idea of their serving as keys or sample cases from which duplicates can be easily and quickly prepared. Eighty cases of loan collections are now available for use in the schools. Thirty-eight of these cases represent zoological material, twenty-one geological, twenty botanical, one anthropological. Many public spirited individuals and corporations have given substantial aid by presenting materials of educational value. In many instances the materials represent the various stages of manufacture from the raw to the finished products. Such collections, accompanied by carefully prepared labels, should prove of value in geographical work, in commercial studies, and also in nature study courses. During the spring, each of the following schools — Burr, Mann, Warren, McAllister, Haines Practice and Carter Practice — made use of the cases for a period of two weeks. The request of the Superintendent of Schools for cases to be sent to Burnside vacation school opened up an entirely new field of museum extension work. The request was granted, and for the entire period of the usual summer vacation, several cases were on exhibition at the above school, and not only were these cases viewed and studied by the pupils, but by many of the residents of the neighborhood adjacent to the school.

PHOTOGRAPHY AND ILLUSTRATION. — The following table shows the actual results only of a large series of detailed operations:

	Number of Negatives made	Number of Prints made	Number of Lantern Slides made	Number of Enlargements made	Number of Negatives developed for Expeditions	Number of 6½x8½ Posi- tives made. Used in mak- ing large Negatives
Director's Office . . .	8	15	..	..	..	..
Anthropology . . .	364	907	142	..	186	..
Botany . . .	157	608	100	84	12	96
Geology . . .	179	346	83	..	..	..
Zoölogy . . .	17	713	95	..	278	..
Harris Extension . . .	41	183	..	2	..	2
Distribution . . .	..	87	117	..	..	..
Gift . . .	..	160	..	..	..	..
Sale . . .	..	732	..	..	..	..
Totals . . .	766	3,751	537	86	476	98
Total number of Catalogue entries during year 1913 . . .						5,714
Total number of Catalogue entries to December 31, 1913 . . .						107,268

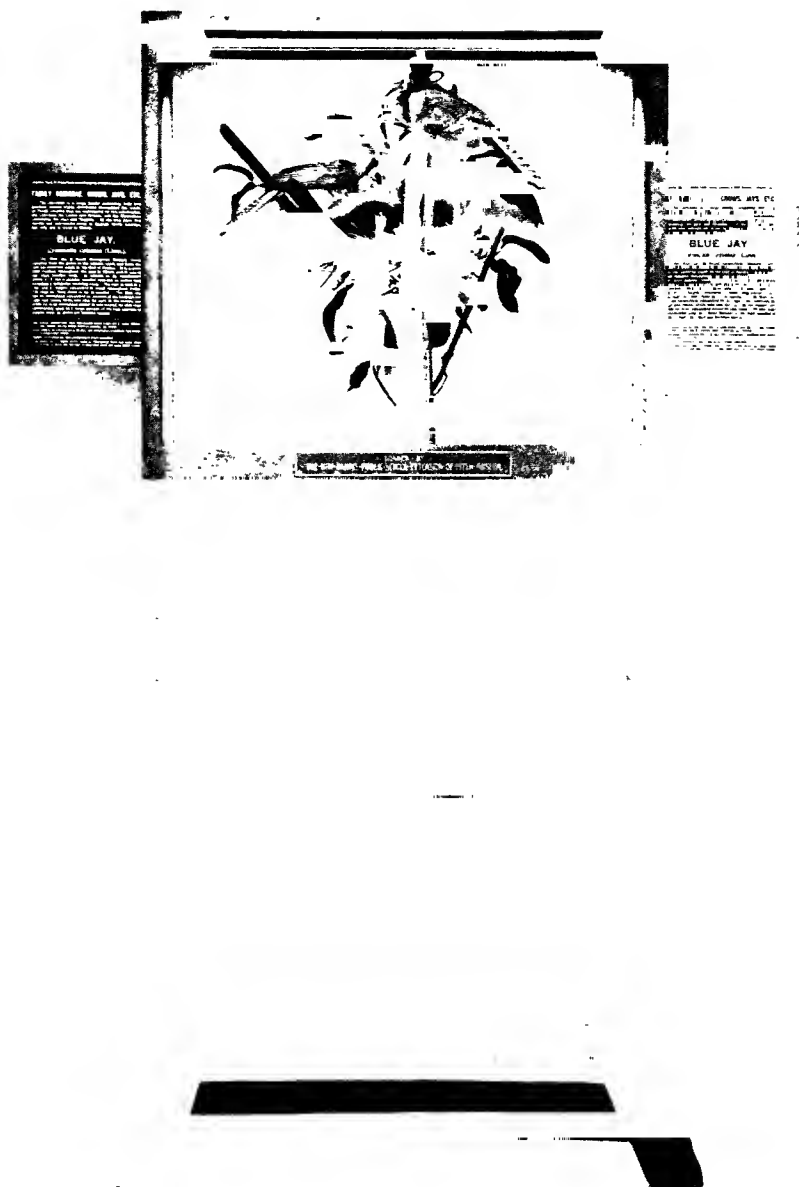
PRINTING.—The Head Printer reports that, notwithstanding the time devoted to the needs of the N. W. Harris Public School Extension, the regular Museum label work has been given the needed attention with the result that the Section has been able to keep up with the incoming copy.

The number of labels and other impressions which were turned out by the Section are tabulated below:

	Exhibition Labels	Other Impressions
Anthropology	4,107	13,350
Botany	2,922	26,321
Geology	6,337	....
Zoölogy	2,695	18,400
General	.	59,738
N. W. Harris Public School Extension	5,545	11,046

ATTENDANCE.—The total number of visitors recorded during the year was 214,144, being a decrease of approximately 400 in the figures for the previous year. The classification of the attendance during the year is shown elsewhere in the report and a list of the school classes (twenty pupils or more) that visited the Institution during the year follows:

Schools and Locations	Teachers	Pupils
University Elementary — Fifty-ninth Street and Kenwood Avenue	3	20
Sullivan — Eighty-third Street and Houston Avenue	2	37
Ray — Fifty-seventh Street and Kenwood Avenue	2	24
Art Institute — Michigan Avenue and Adams Street	1	30
Hyde Park High — Sixty-second Street and Stony Island Avenue	1	88
University of Chicago — Chicago, Illinois	.	20
Art Institute — Michigan Avenue and Adams Street	1	30
Chicago Latin — 18 East Division Street	3	22
Addison Normal — Addison, Illinois	1	60
Ray — Fifty-seventh Street and Kenwood Avenue	1	21
Andersen — West Division and Lincoln Streets	1	40
Shakespeare — Forty-sixth Street and Greenwood Avenue	.	30
Hull House — 800 South Halsted Street	1	25
University of Chicago — Chicago, Illinois	.	45
Chicago Academy of Fine Arts — 6 East Madison Street	.	81
Chicago Latin — 18 East Division Street	1	20
University of Chicago — Chicago, Illinois	.	21
University of Chicago — Chicago, Illinois	.	25
University Elementary — Fifty-ninth Street and Kenwood Avenue	1	21
Hyde Park High — Sixty-second Street and Stony Island Avenue	1	30
Seward — Forty-sixth Street and Hermitage Avenue	13	207
University Elementary — Fifty-ninth Street and Kenwood Avenue	3	31
Marshall High — Adams Street and Spaulding Avenue	2	45
University of Chicago — Chicago, Illinois	1	26
New Trier High — Winnetka, Illinois	1	20



TYPE OF CASE LOANED TO PUBLIC SCHOOLS BY THE N. W. HARRIS PUBLIC SCHOOL
EXTENSION OF FIELD MUSEUM.

Schools and Locations	Teachers	Pupils
Moody Bible Institute — 153 Institute Place		32
Epiphany — 4219 West 25th Street	2	21
Chicago Latin — 18 East Division Street	3	20
Wendell Phillips High — Thirty-ninth Street and Prairie Avenue		25
Wendell Phillips High — Thirty-ninth Street and Prairie Avenue		21
Clifton High — Clifton, Illinois	1	23
Wendell Phillips High — Thirty-ninth Street and Prairie Avenue		29
Luther Institute — 1135 South Marshfield Avenue	5	95
Marshall High — Adams Street and Spaulding Avenue	1	28
Parker High — 330 Webster Avenue	1	60
St. Charles — St. Charles, Illinois	1	42
Steger — Steger, Illinois	1	20
Warren — Ninety-second Street and Central Avenue	3	40
University of Chicago — Chicago, Illinois	1	25
Hyde Park High — Sixty-second Street and Stony Island Avenue	1	76
University of Chicago — Chicago, Illinois	1	25
Kenwood — Fiftieth Street and Lake Park Avenue	1	42
Dewey — Fifty-fourth Street and Union Avenue	1	20
William Penn — Sixteenth Street and Avers Avenue	1	21
Warren — Ninety-second Street and Central Avenue	1	32
Sherman — Fifty-first and Morgan Streets	3	74
West Pullman — West Pullman, Illinois		21
St. Michaels — Eighty-third Street and Ontario Avenue	1	38
West Pullman — West Pullman, Illinois	2	20
Juvenial Home — 771 Gilpin Place	4	21
Chicago Hebrew Institute — 1258 Taylor Street	4	21
Holden — Thirty-first and Loomis Streets	1	45
University of Chicago — Chicago, Illinois	1	56
Burnside — Ninety-first Place and Langley Avenue	2	40
Jefferson Vacation — Elburn Avenue and Laflin Street	6	52
McCormick Vacation — Sawyer Avenue and West Twenty-seventh Street	14	535
St. Marys — 1031 Cypress Street	2	23
Central Y. M. C. A. — 19 South La Salle Street	4	28
Copernicus Vacation — West Sixtieth and Throop Streets	20	292
Bohemian — 1510 West Eighteenth Street	2	45
University of Chicago — Chicago, Illinois		27
Chicago Orphan — Fifty-first Street and South Park Avenue	1	46
University of Chicago — Chicago, Illinois	1	32
Washington — North Morgan Street and Grand Avenue	1	55
Chicago Evangelistic Institute — 1754 Washington Boulevard	1	41
Chicago Academy of Fine Arts — 6 East Madison Street	1	41
University Elementary — Fifty-ninth Street and Kenwood Avenue	1	25
Holy Family — 1444 West Division Street	2	24
Home for Jewish Friendless — 5228 Ellis Avenue	2	55
Moody Bible Institute — 153 Institute Place		31
Carter Practice — Sixty-first Street and Wabash Avenue	2	45
University Elementary — Fifty-ninth Street and Kenwood Avenue	1	20
University of Chicago — Chicago, Illinois		35

Schools and Locations	Teachers	Pupils
Art Institute — Michigan Avenue and Adams Street	1	22
University Elementary — Fifty-ninth Street and Kenwood Avenue	2	20
Chicago Latin — 18 East Division Street	5	25
University Elementary — Fifty-ninth Street and Kenwood Avenue	3	22
Andersen — West Division and Lincoln Streets	1	37
Branscroft — Maplewood and Wabansia Avenue	1	30

Herewith are also submitted financial statements, analysis of attendance, list of accessions, articles of incorporation, amended by-laws, names of members, etc.

FREDERICK J. V. SKIFF, Director.

FINANCIAL STATEMENT

RECEIPTS AND DISBURSEMENTS

January 1, 1913, to December 31, 1913

RECEIPTS

Cash in Treasurer's hands, General Fund, December 31, 1912	\$8,342.10
Cash in Treasurer's hands, Endowment Sinking Fund, December 31, 1912	504.44
Petty Cash on hand, December 31, 1912	739.95
Dues of Annual Members	1,200.00
Life Members	1,000.00
Life Memberships Fund — Investment Income	275.00
Admissions and Check Rooms	5,886.15
Sale of Guides	218.00
South Park Commissioners	15,000.00
Interest on Investments and Bank Balances	44,784.39
Field Endowment Income	136,500.00
Field Endowment Sinking Fund	500.00
Field Endowment Sinking Fund Income	152.89
New Exhibition Cases Fund	1,829.24
New Exhibition Cases Fund Income	2,760.00
New Exhibition Cases Fund Investments retired	22,500.00
Field-Sprague Ornithology Fund	578.00
Joseph N. Field South Pacific Islands Fund	12,268.13
Huntington W. Jackson Library Fund	40.00
N. W. Harris Public School Extension	171.15
Donations	5,670.62
Sundry receipts	17.27

\$260,937.33

DISBURSEMENTS

Salaries	\$95,201.53
Guard Service	13,152.69
Janitor Service	8,003.03
Fire Protection	5,216.42
Heat and Light —	
Wages	\$4,071.28
Fuel	6,081.68
Gas	452.00
Renewals, Supplies and Sundries	977.74

11,582.70

316 FIELD MUSEUM OF NATURAL HISTORY — REPORTS, VOL. IV.

Repairs and Alterations —			
Wages of Carpenters, Painters, Roofers, etc. . . .	\$9,643	18	
Material used — paints, oils, glass, lumber, plaster, etc.	2,467.	14	
Constructing Sewer	341	00	
Restoration of West Annex	2,142.	61	\$14,593.93
			<hr/>
Sections of Printing and Photography			7,302.68
Collections, purchased			13,832.00
Departmental Expenses			6,350.00
Expeditions			4,725.58
Publications			2,763.17
General Expense —			
Freight, Expressage and Teaming	\$2,321	51	
Stationery	308	33	
Postage, Telephone and Telegrams	752.	87	
Sundries	3,229	59	6,612.30
			<hr/>
Furniture and Fixtures —			
New Exhibition Cases	\$32,453	12	
Sundries	88	00	32,541.12
			<hr/>
The Library —			
Books and Periodicals	\$1,401.	82	
Binding	741.	79	
Expense	78.	73	2,222.34
			<hr/>
Field-Sprague Ornithology Fund			348.25
Joseph N. Field South Pacific Islands Fund			12,429.70
Stanley McCormick Hopi Fund			12.20
Mrs. T. B. Blackstone Fund			273.96
Homer E. Sargent Fund			12.66
			<hr/>
			\$237,176.26
In Treasurer's hands, December 31, 1913 —			
General Fund	\$11,690.	37	
New Exhibition Cases Fund	930	75	
Endowment Sinking Fund	180	00	12,801.12
			<hr/>
Petty Cash on hand, December 31, 1913			739.95
New Exhibition Cases Fund — advance to Building Fund			3,500.00
General Fund — Investments			5,500.00
Endowment Sinking Fund-Investment			1,220.00
			<hr/>
			\$260,937.33

ATTENDANCE AND RECEIPTS FROM JANUARY 1 TO DECEMBER 31, 1913

ATTENDANCE.

Paid Attendance —		
Adults . . .	20,547	
Children . . .	2,166	22,713
Free Admission on Pay Days —		
School Children . . .	3,836	
Students . . .	3,410	
Teachers .	505	
Members: Corporate	36	
Annual .	37	
Life . .	1	
Officers' Families	53	
Special	193	
Press	17	8,088
Admissions on Free Days —		
Saturdays	40,842	
Sundays	142,501	183,343
Total Attendance		214,144
Highest Attendance on any one day (July 20, 1913) . .		7,991
Highest Paid Attendance on any one day (September 1, 1913)		618
Average Daily Admissions (363 days)		589
Average Paid Attendance (259 days)		87

RECEIPTS.

Guides Sold — 872 at 25 cents each	\$218.00
Articles Checked — 10,656 at 5 cents each	532.80
Admissions	5,353.35
	<hr/>
	\$6,104.15

ACCESSIONS

DEPARTMENT OF ANTHROPOLOGY.

(ACCESSIONS ARE BY GIFT UNLESS OTHERWISE DESIGNATED.)

AYER, E. E., Chicago.

Pair of gold bracelets — Italy.

Female Ushabti figure of wood — Egypt.

Belt, silver plates, Navajo.

Ceremonial Copper Shield, Kwakiutl.

BLACKSTONE, MRS. T. B., Chicago.

Ancient Chinese bone carvings — China.

Ancient bone carvings — Shantung, China.

Pair of bronze staves — Shantung, China.

FIELD, JOSEPH N., Manchester, England. South Pacific Islands Fund.

General ethnological collection — Melanesia (Collected by A. B. Lewis).

Skulls and skeletons — Melanesia.

FIELD MUSEUM OF NATURAL HISTORY.

Purchases:

Painted scroll by Ku K'ai-chi in British Museum, reproduced in colored wood cut — China.

Parade uniform of officer belonging to the Imperial Palace Guard, complete with helmet, boco-case and trunk — China.

Decorated Buffalo-hide robe.

Four Navajo blankets.

GARST, GOODWIN, Coon Rapids, Iowa.

Flint arrowhead — Coon Rapids, Iowa.

GISE, MISS VIRGINIA, Chicago.

Miscellaneous ethnological specimens — Samoa and South Sea Islands.

LANDIS, FRANKLIN, Chicago.

Coat of intestines trimmed with fur—Aleutian Islands.

MOORE, CLARENCE B., Philadelphia, Pa.

Archæological specimens.

PFAFFER, DR. L., Weimar, Germany.

Prehistoric archæological remains.

ROBERTS, GEO. C., Sharon Hill, Pa.

Flint arrowheads — Pennsylvania (exchange).

SETON-KARR, H. W., London, England.

Flint archæological specimens — Egypt.

SIAMESE GOVERNMENT, Bangkok, Siam.

4 Buddhistic clay tablets — Siam.



COLONY GROWTH
HIGHLY MAGNIFIED



SINGLE INDIVIDUALS
MORE HIGHLY MAGNIFIED

474003

BARREL DIATOM.

(*Melosira borealis*)

Simple, cylindrical diatoms of brackish water. This species is usually found in the form of minute rods consisting of many individuals attached end-to-end. The capsule-like shell, or skeleton, consists of a broad, barrel-shaped band (*girdle*) closed at both ends by bulging covers (*valves*).

(1912).

Reproduced from nature

In the circle above is shown the formation of the new valves of two "daughter cells" within the barrel of a mature "mother cell," and the subsequent growth of these daughter cells by increasing the width of the girdle.

MASSACHUSETTS (O.P.S.)

MUSEUM SUBSTITUTE FOR THE MICROSCOPE.
Reproductions of diatoms in the microscopic field

DEPARTMENT OF BOTANY.

(ACCESSIONS ARE BY GIFT UNLESS OTHERWISE DESIGNATED.)

AMERICAN TRADING CO., Yokohama, Japan.

Japanese rice, kodzo and bamboo papers — Japan.

ARTHUR, J. C., Lafayette, Ind.

Photographs of Cedar Apples — Indiana.

BLACK, E. W., Santa Margarita, California.

Economic specimens and dry fruits — California.

BRANDEGEE, T. S., Berkeley, California.

1 herbarium specimen — Mexico.

BRITTON, MRS. E. G., New York City.

4 illustrations.

CLAYBERG, H. D., Chicago, Illinois.

1 herbarium specimen — Michigan.

CORY, MRS. C. B., Chicago, Illinois.

1 herbarium specimen — Wisconsin.

DEAM, CHAS. C., Bluffton, Indiana.

6 herbarium specimens — Indiana and Florida.

DEPARTMENT OF AGRICULTURE, Kingston, Jamaica, British West Indies

3 branches and fruits of *Capparis jamaicensis* — Jamaica.

DE SELM, JUDGE ARTHUR W., Kankakee, Illinois.

229 herbarium specimens — Illinois and Michigan.

244 herbarium specimens — Kankakee, Illinois.

371 dried plants — Illinois.

FAIRBANK COMPANY, THE N. K., Chicago, Illinois.

16 cottonseed oil products.

FIELD MUSEUM OF NATURAL HISTORY.

Collated by C. F. Millspaugh:

16 herbarium specimens — Peru and Ecuador.

56 herbarium specimens — Java, Malaya, Mexico, United States and West Indies.

53 herbarium specimens — Europe, Australia and West Indies.

33 plant fragments, descriptions and drawings.

3 herbarium specimens — Cuba.

53 herbarium specimens — United States, West Indies, Mexico, Central and South America.

3 herbarium specimens — Mexico and West Indies.

Collated from Museum Library:

5 colored plates mounted as herbarium specimens.

Collated by E. B. Uline:

3 drawings of *Amaranthaceæ* and *Dioscoreaceæ*.

Collected by O. E. Lansing, Jr.:

9 herbarium specimens — Indiana.

Collected by H. H. Smith:

Fruits of *Euonymus atropurpureus* — Indiana.Fruits of *Viburnum prunifolium* — Indiana.Gum, seeds and cones of *Pinus Sabiniana* — California.

125 herbarium specimens — Illinois and Indiana.

Dry fruits of *Rhus radicans* (poison ivy) — Indiana.

Made by Section of Photography:

7 photographs of type plants.

Photo of *Cacalia discolor* — Cuba.

Purchases:

Economic specimens (*Myristica fragrans*) — Butter.Economic specimens (*Myristica fragrans*) — Oil.

109 herbarium specimens — South Pacific Islands.

1 specimen of sealing wax.

1 specimen of shell lac.

1,000 herbarium specimens — Palawan, Philippine Islands.

221 herbarium specimens — Canada.

557 herbarium specimens — Santo Domingo.

338 herbarium specimens — Montana, Nevada, California, Utah and Wyoming.

612 herbarium specimens — South Dakota.

490 herbarium specimens — South Pacific Islands.

32 economic specimens — South Pacific Islands.

359 herbarium specimens — Mexico.

1,159 herbarium specimens — Mexico.

122 herbarium specimens — Tobago and Trinidad.

101 herbarium specimens — Santo Domingo.

507 herbarium specimens — Philippines.

51 herbarium specimens — South Dakota.

105 herbarium specimens — Tobago, West Indies.

50 herbarium specimens — South Dakota.

56 herbarium specimens — Tobago, West Indies.

87 herbarium specimens — South Dakota.

218 herbarium specimens — Philippine Islands.

Modeled by Section of Modeling:

Toxylon pomiferum — fruits.*Psidium Guajava* — fruit section.*Garcinia Mangostana* — fruiting twig, fruit, and fruit section.*Arundinaria* sp. — sprout.*Cattleya Trianaei* — flower.*Asclepias Syriaca* — whole plant.*Diospyros Virginiana* — fruiting branch.*Connarus diversifolius* — fruiting branch.*Dioscorea sativa* — tubers.*Gnetum Gnetum* — branch.Plant of *Vanilla planifolia*.Leaves of *Piper Betel*.

Reproduction of small branch of vanilla plant.

Reproduction of fruit head of "Cardamom." (*Elettaria*.)• Modeling of enlarged flowers of *Gnetum*.Fruit of *Averrhoa Carambola*.Whole branch of *Averrhoa Bilimbi* in leaf, flower and fruit.Diatom — *Triceratium favus*.Diatom — *Planktonella Sol.*Flower of *Oxalis corniculata*.Model of branch of *Magnolia foetida*.

Diatom — *Melosira Botteri*.

Diatom — *Chaetoseros Lorenzianum*.

Bacteriastrum varians.

Rhizosolenia styliformis and *R. setigera*.

Models of *Cleome spinosa* — enlarged flower, fruit natural size, ovary section enlarged.

Model of Diatom *Licmophora flabellata*.

Reproduction of a plant of *Hydnophytum formicarum*.

9 mushroom models.

49 reproductions of Bacteria.

A full leafy and fruiting branch of *Ginkgo biloba*.

Reproduction of a group of fungi (*Armillaria mellea*).

FOREST ECONOMIST, Dehra Dun, India.

55 Vegetable products — India.

Milk and Caoutchouc from *Calotropis* — India.

FRIESSER, J., Chicago, Illinois.

1 herbarium specimen — Florida.

15 herbarium specimens — Alaska and Washington.

5 herbarium specimens — State of Washington.

GEOLOGICAL SURVEY OF ALABAMA, University, Alabama.

14 herbarium specimens — Alabama and Arkansas (exchange).

GRAY HERBARIUM OF HARVARD UNIVERSITY, Cambridge, Mass.

1 herbarium specimen — Cuba (exchange).

GREENMAN, DR. J. M., Chicago, Illinois.

2 herbarium specimens *Maxillaria*.

HALL, MRS. HERMAN J., Chicago, Illinois.

Living plant of Ginseng in full ripe fruit — Michigan.

Illustration of Ginseng — Saugatuck, Michigan.

HARRIS, WILLIAM, Hope Botanical Garden, Kingston, Jamaica, British West Indies.

2 herbarium specimens — Jamaica.

HELLER, A. A., Reno, Nevada.

4 herbarium specimens *Compositæ*.

HERBARIUM BOISSIER, Geneva, Switzerland.

3 drawings and photographs of type plants *Pedilanthus* — Mexico.

HUNGARIAN NATIONAL MUSEUM, Budapest, Austria-Hungary.

109 herbarium specimens — Hungary (exchange).

HYNES, J. A., Chicago, Illinois.

1 Coumarin from *Prunus Mahaleb*.

Flowers of *Hibiscus Sabdariffa*.

Hat ornaments of *Lycopodium* — Germany.

2 grass and sedge hat ornaments — Germany.

16 economic specimens.

Rhamnus Frangula — bark *Boldoa fragrans* — leaves *Astragalus gum-mifer* — gum.

JOHNSON, FRANK W., Chicago, Illinois.

67 herbarium specimens — Illinois and Indiana.

KEW GARDENS, Kew, England.

114 herbarium specimens (exchange).

LANSING, O. E., JR., Chicago, Illinois.

26 herbarium specimens — Indiana.

1 composite bur ornament — Chicago market.

MILLSPAUGH, DR. C. F., Chicago, Illinois.

Economic specimens — *Achras Sapota* — fruit model, crude gum and refined gum — Mexico.

Economic specimens — *Achras Sapota* — Latex — Guatemala.

16 herbarium specimens — Maywood, Illinois.

28 herbarium specimens — Palos, Illinois.

5 herbarium specimens — Chicago, Illinois.

53 herbarium specimens — Wisconsin.

2 herbarium specimens — Michigan.

Seeds of *Tropæolum majus* — Chicago, Illinois.

2 herbarium specimens — Wisconsin.

Fresh fruits of *Tropæolum majus* — Ephraim, Wisconsin.

Cane made of stalk *Verbascum Thapsus* — Ephraim, Wisconsin.

22 herbarium specimens — Wisconsin and Illinois.

Economic specimens: *Myristica fragrans* — nutmegs from Chicago market.

MISSOURI BOTANICAL GARDEN, St. Louis, Missouri.

2 photographs of book illustrations (exchange).

1 herbarium specimen of *Pedilanthus Finckii* — St. Louis, Missouri (exchange).

1 photograph of *Pedilanthus Finckii* — St. Louis, Missouri (exchange).

1 herbarium specimen — St. Louis, Missouri (exchange).

Leaves of *Vanilla planifolia* (exchange).

648 herbarium specimens (exchange).

MORSE, C. G., & CO., San Francisco, California.

Fruits of *Tunio californicum* — California.

NEW YORK BOTANICAL GARDEN, New York City.

Illustration of *Scirpus floccosus* — Cuba (exchange).

695 herbarium specimens *Pedilanthus* — West Indies (exchange).

1 herbarium specimen — Porto Rico (exchange).

94 herbarium specimens — Jamaica (exchange).

301 herbarium specimens — West Indies (exchange).

3 herbarium specimens — West Indies (exchange).

9 herbarium specimens — West Indies (exchange).

1 herbarium specimen — Cuba (exchange).

1 herbarium specimen — New Mexico (exchange).

5 herbarium specimens — Cuba and Florida (exchange).

PACIFIC IMPROVEMENT CO., Del Monte, California.

24 economic specimens logs and dry fruits — California.

PARISH, S. B., San Bernardino, California.

1 herbarium specimen *Chamaesyce* — California.

SHERFF, E. E., Chicago, Illinois.

7 illustrations and descriptions.

8 herbarium specimens — United States and Canada.

SMITH, HURON H., Chicago, Illinois.

10 herbarium specimens — Illinois.

42 herbarium specimens — Indiana.

13 medicinal roots, etc. — Illinois.

UNITED STATES DEPARTMENT OF AGRICULTURE, Division of Plants,
Washington, D. C.

19 herbarium specimens — Mongolia and Siberia (exchange).

UNITED STATES NATIONAL HERBARIUM, Washington, D. C.

19 herbarium specimens — United States, Central America and Philippines
(exchange).

UNIVERSITY OF PENNSYLVANIA, Botanical Garden, Philadelphia, Pa.

91 herbarium specimens — United States.

WURZLOW, E. C., Houma, Louisiana.

9 herbarium specimens — Louisiana.

DEPARTMENT OF GEOLOGY.

(ACCESSIONS ARE BY GIFT UNLESS OTHERWISE DESIGNATED.)

AMHERST COLLEGE, Amherst, Massachusetts.

Skull and jaws of *Stenomylus gracilis* — Nebraska.

ARMOUR SANDPAPER WORKS, Chicago.

6 specimens abrasive powders.

BETHLEHEM STEEL COMPANY, South Bethlehem, Pennsylvania.

Nickel steel shavings from armour plate — South Bethlehem, Pa.

BIDDLE HARDWARE COMPANY, Philadelphia, Pennsylvania.

Propeller of Monel metal.

BÖHM, JULIUS, Vienna, Austria.

1 specimen Tepl meteorite — Bohemia (exchange).

1 specimen St. Germain meteorite — France (exchange).

BRADEN COPPER COMPANY, Rancagua, Chile.

225 specimens copper ore — Rancagua, Chile.

BRITISH SCHOOL OF ARCHÆOLOGY IN EGYPT, London, England.

5 specimens building stones of Memphis, Egypt — Memphis, Egypt.

CHALMERS, W. J., Chicago.

2 gold nuggets — California.

Quantity silver nuggets — Lake Superior.

COLLINS, P., Chicago.

3 specimens gem obsidian.

1 specimen obsidian in matrix — Near Reno, Nevada.

DICKEY CLAY MANUFACTURING CO., W. S., Kansas City, Missouri.

400 pound mass fire clay.

1 brick made from same — Versailles, Missouri.

DIXON CRUCIBLE COMPANY, THE JAS., Jersey City, New Jersey.

Collection illustrating the uses of graphite — Jersey City, New Jersey.

DOMINION MARBLE COMPANY, THE, Montreal, Canada.

4 polished slabs of marble — Quebec, Canada.

DUMONT, DR. T. A., Dumont, Iowa.

10 specimens silver ores — San Bernardino County, California.

EGYPTIAN GEOLOGICAL SURVEY, Cairo, Egypt.

1 specimen El Nakhla meteorite — El Nakhla, Egypt (exchange).

FIELD MUSEUM OF NATURAL HISTORY.

Collected by B. Laufer:

1 polished specimen of ophealcite — Region of the Upper Huang-Ho,
Kansu Province, China.

Collected by E. S. Riggs:

- 1 specimen of Loup Fork sandstone — Agate, Nebraska.

Collected by R. D. Salisbury:

- 4 specimens obsidian nodules — Patagonia.
- 1 specimen diamondiferous sand — Brazil.

Collected by A. W. Slocum:

- 182 specimens invertebrate fossils.
- 5 specimens brown coal — Little Traverse Bay, Michigan.

Purchases:

- Etched slab of the Chinautla meteorite.
- Pickens County meteorite — Pickens County, Georgia.
- 1 specimen pollucite — Buckfield, Maine.
- 1 specimen St. Michel meteorite — St. Michel, Finland.
- Davis Mountains meteorite — Toyah, Texas.

Modeled by B. E. Dahlgren:

- Branch with leaves and fruit of ginkgo — Washington, D. C.

FOOTE MINERAL COMPANY, Philadelphia, Pennsylvania.

- 1 specimen hopeite — Rhodesia (exchange).
- 1 specimen hinsdalite — Colorado (exchange).
- 1 specimen hulsite — Alaska (exchange).

GEORGIA MARBLE COMPANY, Tate, Georgia.

- 6 slabs Georgia marble — Georgia.

GILES & NIELSEN NICKEL WORKS, Troy, New York.

- 2 specimens nickel plate.

GOETZ BROTHERS, New Albany, Indiana.

- 1 specimen pulverized silica for paint — New Albany, Indiana.

HEATH & MILLIGAN MANUFACTURING COMPANY, Chicago.

- 5 specimens buhr stones.
- 8 specimens pigments.

JOHNS-MANVILLE COMPANY, H. W., Chicago.

- 19 specimens of asbestos products.

JOHNSTON, W. M., Chicago.

- 1 specimen gold ore — Animas Forks, Colorado.
- 1 specimen tetrahedrite.
- 1 specimen rhodonite — San Juan County, Colorado.

KILBOURN, SILAS, Chicago.

- 2 specimens marl — Compos Lake, Florida.

KINRADE, J. J., San Francisco, California.

- 1 specimen diopside.
- 1 specimen obsidian — California.

MISSOURI, KANSAS & TEXAS RAILROAD, St. Louis, Missouri.

- 2 specimens burned clay ballast and raw clay — Tebbetts, Missouri.

MACKIN, MRS. C. F., Chicago.

- 1 polished geode — near Charlevoix, Michigan.

MARSH, C. H., Marshfield, Oregon.

- 980 specimens agate and jasper — Oregon.

MARTIN, F. E., Chicago.

- 1 specimen lead ore.
- 1 specimen lead and zinc ore — Hardin County, Illinois.

- MORONEY, JOHN J., Chicago.
1 specimen diatomite.
1 specimen kaolin — Mexico.
- MURPHY, CHRISTOPHER, Chicago.
2 specimens mercury ore — Cinnabar, Arizona.
2 specimens cerussite — Wardner, Idaho.
2 specimens pyromorphite — Wardner, Idaho.
- NARRAWAY, J. E., Ottawa, Canada.
1 fossil trilobite — Mechanicsville, Canada (exchange).
- NICHOLAS, FRANCIS E., New York City.
14 specimens showing alteration of pyrite to hematite — Copete Mine, Sonora, Mexico.
- OLIVER IRON MINING COMPANY, Coleraine, Minnesota.
10 specimens iron ores and concentrates — Coleraine, Minnesota.
- PEABODY, F. S., Chicago.
Tibia of Mastodon — Du Page County, Illinois.
- PIERCE, HENRY B., Golconda, Illinois.
3 specimens transparent fluorite — Golconda, Illinois.
- PLUMAS AMALGAMATED MINES COMPANY, San Francisco, California.
2 specimens gold ore — Soda Creek, California.
- RENNE, D. S., Verona, Illinois.
2 specimens clay — Walker, Lane County, Oregon.
- RICHARDS, A. G., Albany, Wyoming.
1 specimen allanite — Albany, Wyoming.
- ROSENBERGER, J. L., Chicago, Illinois.
47 specimens copper ores — Butte, Montana, and Lake Linden, Michigan.
7 specimens various minerals.
- SCHROTT, FRED, Salt Lake City, Utah.
2 specimens gold ore.
1 specimen country rock — High Grade Camp, Modoc County, California.
- SMITH, HURON H., Chicago, Illinois.
25 specimens opal and jasper pebbles — Oregon and California.
- SOSNOVEC, V., St. Louis, Missouri.
Quartz geode — St. Louis, Missouri.
3 specimens flint — St. Clair County, Illinois.
4 specimens chert concretions — St. Louis, Missouri.
- SOUTHERN RAILWAY COMPANY, Land & Industrial Dept., Washington, D. C.
6 specimens clays.
1 specimen silica — Southern States.
- UNION OIL COMPANY OF CALIFORNIA, Chicago, Illinois.
1 specimen petroleum.
1 specimen asphalt — Sunset District, California.
- UNITED STATES NATIONAL MUSEUM, Washington, D. C.
1 section Perryville meteorite — Perryville, Missouri (exchange).
- UNIVERSITY OF CALIFORNIA, Berkeley, California.
Skeleton of *Canis diurus* — Los Angeles, California (exchange).
- VERMONT MARBLE COMPANY, Proctor, Vermont.
13 polished slabs of Vermont marble — Proctor, Vermont.

WARSAW CO-OPERATIVE ASSOCIATION, Warsaw, Illinois.

1 specimen ferruginous shale — Warsaw, Illinois.

DEPARTMENT OF ZOÖLOGY.

(ACCESSIONS ARE BY GIFT UNLESS OTHERWISE STATED.)

ALFARO, DR. A., San Jose, Costa Rica.

3 snout beetles — Rio Higueron, Taboga, Guanacaste, Costa Rica.

350 fishes — Pacific side of Costa Rica.

3 reptiles — Pacific side of Costa Rica.

AMERICAN MUSEUM OF NATURAL HISTORY, New York City.

65 specimens of mammals — Alaska, Siberia, Mexico, South America (exchange).

AYER, EDWARD E., Chicago.

1 Mallard Drake (albino) — Kankakee River, Illinois.

BARNES, JUDGE R. M., Lacon, Illinois.

1 Trumpeter Swan.

1 Trumpeter Swan — Eastern United States

BEATY, WILBUR L., Chicago.

1 Mountain Rat Nest — Butte, Montana

BORDEN, JOHN, Chicago.

1 Mallard (albino).

1 Cardinal Grosbeak (albino) — Illinois.

BROWN, LYLE E., Chicago.

1 Herring Gull — Jackson Park, Chicago.

DEUBLER, L., Chicago.

1 Mantispæ.

1 beetle — Edgebrook, Illinois.

5 bird lice — Sheldon, Illinois.

DEVLIN, MRS. J., Chicago.

4 beetles — Costa Rica, Central America

DOWD, MRS. LYDIA, Chicago.

1 American Bittern.

DUNNING, JERRY, Olive Branch, Illinois

1 Cormorant — Olive Branch, Illinois.

FAIRCHILD, ELIJAH S., Chicago.

1 spider — Chicago, Illinois.

FIELD MUSEUM OF NATURAL HISTORY.

Collected by M. P. Anderson:

86 mammals — Eastern Peru.

173 birds — Eastern Peru.

2 snakes — Eastern Peru.

1 lizard — Eastern Peru.

173 bird skins — Peru, South America.

1 bumblebee }

2 beetles }

6 scorpions }

5 reptiles }

10 fishes } — Boa Vista (Rio Branco), Brazil

Collected by M. P. Anderson and R. H. Beeker:

540 bird skins	}	— State of Amazonas, Brazil.
51 mammal skins		
61 mammal skulls		

Collected by R. H. Becker:

104 bird skins	}	— Amazonas, Brazil.
57 mammals (skins and skulls)		
4 skulls only		
442 bird skins		
85 mammals (skins and skulls)		
14 odd skulls	}	— Eastern Brazil.
13 bats		
5 frogs		
1 lizard		
1 snake		
1 tarantula	}	— Amazon River, Brazil.
1 beetle		

Collected by C. Brandler:

1 Musk Rat — Jackson Park, Chicago.

Collected by C. B. Cory.

1 bug	}	— Ballard Lake, Wisconsin.
1 dragonfly		
2 butterflies		
4 grasshoppers		
6 flies		
11 bees, wasps, etc.		
12 beetles		

5 shells — Lake Bucktoban, Vilas County, Wisconsin.

Collected by J. Friesser:

4 moose (skulls and 3 skeletons) skins, 1 pair moose horns, 5 Alaska porcupines (with skulls and 2 skeletons), 8 red squirrels, 9 varying hares (with skulls and 1 skeleton) — Kenai Peninsula, Alaska.

2 bugs, 5 grasshoppers, 5 beetles — Bozeman, Montana.

3 beetles, 20 flies, 1 ant, 3 bugs — Skilak Lake, Alaska.

Collected by W. J. Gerhard:

221 dragonflies, grasshoppers, bugs, butterflies, moths, beetles, flies, bees, wasps, and parasites — Northern Illinois and Northern Indiana.

Collected by E. N. Gueret:

2 Sanderling — Lake Michigan, South Chicago.

Collected by William Heim:

1 Kangaroo Rat — Baird, Shasta County, California.

140 fishes — Monterey, California.

85 fishes — Long Beach, California.

9 boxes mounted fish — Long Beach, California.

Salmon eggs — Baird, California.

1 keg of gravel — Baird, California.

Collected by S. E. Meek and S. F. Hildebrand:

17,000 specimens of fishes (550 species) — Panama.

Collected by W. H. Osgood and M. P. Anderson:

202 mammals, 208 birds, 2 lizards — Peru.

2 centipedes — Balsas, Peru.

Collected by L. L. Walters:

- 41 mammals (skins and skulls), 3 birds — Salamonina, Jay County, Indiana.
- 56 birds, 3 mammals — Cook County, Illinois.

Purchases:

- 1 skink (lizard)— Fruitland Park, Lake County, Florida.
- 6 eggs, nest and 5 eggs, nest and 4 eggs.
- 1 cow buffalo.

591 Humming-bird skins.

37 moths, 40 butterflies — Key Islands, Dutch East Indies.

2 Rough-legged Hawks.

3 deer, 1 Coati, 1 Tayra (skins and skulls) — Venezuela.

156 Humming-birds, 79 miscellaneous species, 42 Humming-bird nests — Venezuela.

20 Murres Eggs.

83 Arctic birds, 65 eggs, 4 nests, photographs and samples of moss — Behring Sea, Alaska and Siberia.

6 Paradise Birds — German New Guinea.

FRIESSER, J., Chicago.

1 beetle — Willow Springs, Illinois.

3 bugs, 6 beetles — Holland, Michigan.

GAULT, B. T., Glen Ellyn, Illinois.

3 bats — Cayenne, French Guiana.

GAUMER, G. F., Tacubaya, D. F., Mexico.

2 Pigmy Opossums.

GIBNEY, J., Chicago.

1 millipede — Chicago, Illinois.

GUERET, E. N., Chicago.

1 bird parasite (bird louse)— Worth, Illinois.

HANCOCK, DR. J. L., Chicago.

4 bugs — Wheaton, Illinois.

HEFTER, CHARLES, Kankakee, Illinois.

1 starfish — Gulf of Mexico.

INDIANA UNIVERSITY MUSEUM, Bloomington, Indiana

123 fishes — Guatemala.

LEWIS, A. B., Chicago.

1 Cassowary Egg — North Coast of Dutch New Guinea.

1 Dugong Skull — German New Guinea.

LILJEBLAD, E., Chicago.

40 bugs, mantispas, beetles, flies, bees, etc.— Northern Illinois and Northern Indiana.

3 bugs — Mt. Vernon, Ohio.

MILLSPAUGH, DR. C. F., Chicago.

4 moths — Ephraim, Wisconsin.

MUNZNER, H., Chicago.

1 bug, 2 beetles, 1 wasp, 3 spiders — Northern Illinois.

NETHERCOT, MRS. ARTHUR, Chicago.

1 scorpion, 1 Trapdoor Spider's Nest — San Remo, Italy.

NICKERSON, V. C., Kankakee, Illinois.

Specimens of scale insects on branch of cherry — Kankakee, Illinois.

PHELPS, MRS. W. L., Chicago.

1 Gar-fish.



HIGHLY MAGNIFIED

27403.

Bacteria (rod-shaped) among cells of tubercles.

GERMS OF TUBERCULOSIS.

(*Bacterium tuberculosis*).

Tubercular affections in man and animals are caused by organisms such as the above. They may attack any organ in the body or all of them. Cattle are especially liable to become affected with tuberculosis; thus dairy products are a prolific source of infection. Outside of the body the bacillus may live for many weeks. It is, however, killed by a few hours exposure to direct sunlight.

Reproduced from nature

REPRODUCTION OF A MICROSCOPE FIELD SHOWING BACTERIA.

PORTER, A. F., Decorah, Iowa.

68 bugs, beetles, bees and wasps — Iowa, West Indies, South America and Africa.

PRAY, LEON L., Chicago.

1 *Synaptomys cooperi* — Dowagiac, Michigan.

1 bee, 2 bugs, 2 flies, 7 beetles — Dowagiac, Michigan.

SISSON, O. U., Chicago.

1 Gar-fish.

STEELE, G. F., Chicago.

1 Caribou head, 1 White-tail Deer head, 1 Mountain Sheep head, 1 Black-tail Deer head, 3 Goat heads, 1 Buffalo head, 5 fish, 1 Jew fish, 2 pelicans, 1 Great Blue Heron, 1 Snowy Owl, 1 Great Horned Owl, 1 Barn Owl, 1 Saw-whet Owl, 1 Royal Tern, 3 California Quail — California and Michigan.

STUDEBAKER, J. M., South Bend, Indiana.

2 American Elk (male and female) — Glenwood Springs, Colorado.

THOMPSON, S. L., Winnipeg, Manitoba.

3 bugs, 1 butterfly, 2 bumblebees — Winnipeg, Manitoba.

UNITED STATES BIOLOGICAL SURVEY, Washington, D. C.

1 *Viscaccia*, 1 *Euneomys* — Peru (exchange).

UNITED STATES NATIONAL MUSEUM, Washington, D. C.

200 specimens of fishes (84 species) (exchange).

WARREN, J. B., Chicago.

1 Manatee (skeleton) — Texas.

WILLIAMSON, E. B., Bluffton, Indiana.

1 Short-eared Owl — Bluffton, Indiana.

1 Sparrow Hawk — Bluffton, Indiana.

1 Great Horned Owl — Bluffton, Indiana.

1 Horned Grebe — Bluffton, Indiana.

1 Red-tailed Hawk — Bluffton, Indiana.

1 Carolina Rail — Bluffton, Indiana.

1 Red-shouldered Hawk — Bluffton, Indiana.

1 Marsh Hawk.

WINCHESTER, MRS. NINA, Santa Cruz, Philippine Islands.

30 shells — Santa Cruz, Davao District, Moro Province, Philippine Islands.

WOLCOTT, A. B., Chicago.

54 bugs, beetles, flies, bees, wasps, etc. — Northern Indiana and Northern Illinois.

7 millipedes, 155 vials of spiders — Northern Indiana and Northern Illinois.

SECTION OF PHOTOGRAPHY.

(ACCESSIONS ARE BY GIFT UNLESS OTHERWISE DESIGNATED)

FIELD MUSEUM OF NATURAL HISTORY:

Made by the Section:

766 negatives of Museum specimens, etc., 3,751 prints from the same, 537 lantern slides, 86 tree enlargements, 476 negatives developed for Museum field expeditions, 98 $6\frac{1}{2} \times 8\frac{1}{2}$ positives (used in making large negatives for North American Forestry exhibit).

Made by M. P. Anderson:

134 negatives of landscapes, seascapes, general views, etc. — Brazil.

Made by J. Friesser:

144 negatives of seascapes and landscapes — Alaska.

Made by A. B. Lewis:

1,100 negatives of landscapes, portraits of natives, industries, etc. — New South Wales.

Made by C. F. Millsbaugh:

12 negatives of landscapes, tree portraits, etc. — Wisconsin.

Made by C. L. Owen:

168 negatives of landscapes, general views, portraits, etc. — Arizona.

Made by H. H. Smith:

12 portraits of plants, landscapes, etc.

Purchases:

100 miscellaneous photographs — Papua.

THE LIBRARY.

BOOKS, PAMPHLETS, AND SERIALS

(ACCESSIONS ARE BY EXCHANGE UNLESS OTHERWISE DESIGNATED.)

ACIREALE ACCADEMIA DI SCIENZE, Acireale, Italy	1
AGASSIZ, G. R., Cambridge, Massachusetts (gift)	1
ALABAMA GAME AND FISH COMMISSION, Montgomery, Alabama	7
ALABAMA GEOLOGICAL SURVEY, University, Alabama	2
ALBANY MUSEUM, Grahamstown, South Africa	1
ALLEN, GLOVER M., Cambridge, Massachusetts	1
ALTENBURG. NATURFORSCHENDE GESELLSCHAFT DES OSTERLANDES, Altenburg, Germany	1
AMERICAN ACADEMY OF ARTS AND SCIENCES, Cambridge, Massachusetts	2
AMERICAN ANTIQUARIAN SOCIETY, Boston, Massachusetts	3
AMERICAN CHEMICAL JOURNAL PUBLISHING COMPANY, Baltimore, Maryland	2
AMERICAN FOLK LORE SOCIETY, Cambridge, Massachusetts	1
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AMERICAN INSTITUTE OF MINING ENGINEERS, New York City	2
AMERICAN JOURNAL OF PHARMACY, Philadelphia	1
AMERICAN MUSEUM OF NATURAL HISTORY, New York City	45
AMERICAN ORIENTAL SOCIETY, New Haven, Connecticut	1
AMERICAN PHILOSOPHICAL SOCIETY, Philadelphia	1
AMES, ADELINE, Washington, D. C. (gift)	1
AMHERST COLLEGE, Amherst, Massachusetts	2
ANNALES DES MINES, Paris, France	3
ANTHROPOLOGICAL INSTITUTE OF GREAT BRITAIN AND IRELAND, London, England	1
ARCHIV FÜR RELIGIONSWISSENSCHAFT, Leipzig, Germany	1
ARIZONA AGRICULTURAL EXPERIMENT STATION, Tucson, Arizona	4

ARMOUR INSTITUTE OF TECHNOLOGY, Chicago	1
ARNOLD ARBORETUM, Harvard University, Jamaica Plain, Massachusetts	1
ASHMOLEAN NATURAL HISTORY SOCIETY OF OXFORDSHIRE. Oxford, England	1
ASIATIC SOCIETY OF BENGAL, Calcutta, India	7
ASSOCIATION OF ENGINEERING SOCIETIES, Philadelphia	2
ATKINSON, GEORGE F., Ithaca, New York	4
AUSTRALASIAN ORNITHOLOGISTS' UNION, Melbourne, Australia	1
AUSTRALIA. GOVERNMENT OF THE COMMONWEALTH, Melbourne, Australia	11
AUSTRALIAN MUSEUM, Sydney, New South Wales	8
BAKER, RICHARD T., Sydney, New South Wales	6
BARCELONA. L'INSTITUT DE CIENCIAS, Barcelona, Spain	1
BARNES, WILLIAM, Decatur, Illinois (gift)	4
BARRETT, S. A., Milwaukee, Wisconsin	7
BASCOM, F., Bryn Mawr, Pennsylvania	1
BASEL. NATURFORSCHENDE GESELLSCHAFT, Basel, Switzerland	1
BATAVIAASCH GENOOTSCHAP WETENSCHAPPEN, Batavia, Java	3
BATH. NATURAL HISTORY AND ANTIQUARIAN FIELD CLUB, Bath, England	1
BELFAST NATURAL HISTORY AND PHILOSOPHICAL SOCIETY, Belfast, Ireland	2
BELFAST NATURALISTS' FIELD CLUB, Belfast, Ireland	1
BELOIT COLLEGE, Beloit, Wisconsin	2
BERGEN MUSEUM, Bergen, Norway	2
BERLIN. DEUTSCHE GEOLOGISCHE GESELLSCHAFT, Berlin, Germany	7
BERLIN. DEUTSCHE GESELLSCHAFT FÜR ANTHROPOLOGIE, ETHNOL., UND URGS., Berlin, Germany	1
BERLIN. DEUTSCHE GESELLSCHAFT FÜR VOLKSTÜMLICHE NATURKUNDE, Berlin, Germany	1
BERLIN. DEUTSCHER SEEFISCHEREI-VEREIN, Berlin, Germany	58
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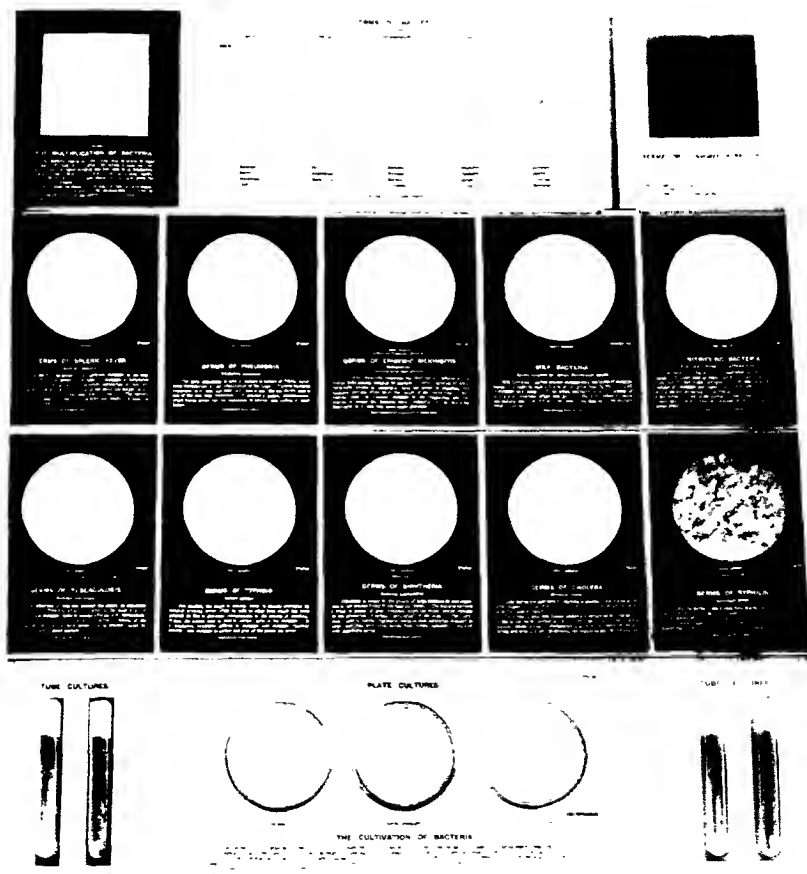
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ZÜRICH. BOTANISCHES MUSEUM DER UNIVERSITÄT, Zurich, Switzerland	2
ZÜRICH. GEOGRAPHISCH-ETHNOGRAPHISCHE GESELLSCHAFT, Zurich, Switzerland	1
ZÜRICH. NATURFORSCHENDE GESELLSCHAFT Zurich, Switzerland . .	1



BRONZE COLANDER, CHINA, EARLY ARCHAIC PERIOD.
Mrs. T. B. Blackstone Expedition.

Ed. E. Ayer, Charles B. Farwell, George E. Adams, George R. Davis, Charles L. Hutchinson, Daniel H. Burnham, John A. Roche, M. C. Bullock, Emil G. Hirsch, James W. Ellsworth, Allison V. Armour, O. F. Aldis, Edwin Walker, John C. Black, and Frank W. Gunsaulus.

5. The location of the Museum is in the City of Chicago, County of Cook, and State of Illinois.

(Signed).

George E. Adams, C. B. Farwell, Sidney C. Eastman, F. W. Putnam, Robert McMurdy, Andrew Peterson, L. J. Gage, Charles L. Hutchinson, Ebenezer Buckingham, Andrew McNally, Edward E. Ayer, John M. Clark, Herman H. Kohlsaat, George Schneider, Henry H. Getty, William R. Harper, Franklin H. Head, E. G. Keith, J. Irving Pearce, Azel F. Hatch, Henry Wade Rogers, Thomas B. Bryan, L. Z. Leiter, A. C. Bartlett, A. A. Sprague, A. C. McClurg, James W. Scott, George F. Bissell, John R. Walsh, Chas. Fitzsimons, John A. Roche, E. B. McCagg, Owen F. Aldis, Ferdinand W. Peck, James H. Dole, Joseph Stockton, Edward B. Butler, John McConnell, R. A. Waller, H. C. Chatfield-Taylor, A. Crawford, Wm. Sooy Smith, P. S. Peterson, John C. Black, Jno. J. Mitchell, C. F. Gunther, George R. Davis, Stephen A. Forbes, Robert W. Patterson, Jr., M. C. Bullock, Edwin Walker, George M. Pullman, William E. Curtis, James W. Ellsworth, William E. Hale, Wm. T. Baker, Martin A. Ryerson, Huntington W. Jackson, N. B. Ream, Norman Williams, Melville E. Stone, Bryan Lathrop, Eliphalet W. Blatchford, Philip D. Armour.

STATE OF ILLINOIS }
COOK COUNTY } ss.

I, G. R. MITCHELL, a NOTARY PUBLIC in and for said County, do hereby certify that the foregoing petitioners personally appeared before me and acknowledged severally that they signed the foregoing petition as their free and voluntary act for the uses and purposes therein set forth.

Given under my hand and notarial seal this 14th day of September, 1893.

G. R. MITCHELL,
[SEAL.] NOTARY PUBLIC, COOK COUNTY, ILL.

CHANGE OF NAME.

Pursuant to a resolution passed at a meeting of the Corporate members held the 25th day of June, 1894, the name of the COLUMBIAN MUSEUM was changed to FIELD COLUMBIAN MUSEUM. A certificate to this effect was filed June 26, 1894, in the office of the Secretary of State for Illinois.

CHANGE OF NAME.

Pursuant to a resolution passed at a meeting of the Corporate members held the 8th day of November, 1905, the name of the FIELD COLUMBIAN MUSEUM was changed to FIELD MUSEUM OF NATURAL HISTORY. A certificate to this effect was filed November 10, 1905, in the office of the Secretary of State for Illinois.

ARTICLES OF INCORPORATION

STATE OF ILLINOIS.

DEPARTMENT OF STATE.

WILLIAM H. HINRICHSSEN, *Secretary of State.*

TO ALL TO WHOM THESE PRESENTS SHALL COME, GREETING:

Whereas, a Certificate duly signed and acknowledged having been filed in the office of the Secretary of State, on the 16th day of September, A. D. 1893, for the organization of the COLUMBIAN MUSEUM OF CHICAGO, under and in accordance with the provisions of "An Act Concerning Corporations," approved April 18, 1872, and in force July 1, 1872, and all acts amendatory thereof, a copy of which certificate is hereto attached

Now, therefore, I, William H. Hinrichsen, Secretary of State of the State of Illinois, by virtue of the powers and duties vested in me by law, do hereby certify that the said COLUMBIAN MUSEUM OF CHICAGO is a legally organized Corporation under the laws of this State.

In Testimony Whereof, I hereto set my hand and cause to be affixed the Great Seal of the State. Done at the City of Springfield, this 16th day of September, in the year of our Lord one thousand eight hundred and ninety-three, and of the Independence of the United States the one hundred and eighteenth.

W. H. HINRICHSSEN,
Secretary of State.

[SEAL.]

TO HON. WILLIAM H. HINRICHSSEN,

SECRETARY OF STATE.

SIR:

We, the undersigned citizens of the United States, propose to form a corporation under an act of the General Assembly of the State of Illinois, entitled "An Act Concerning Corporations," approved April 18, 1872, and all acts amendatory thereof; and that for the purposes of such organization we hereby state as follows, to wit:

1. The name of such corporation is the "COLUMBIAN MUSEUM OF CHICAGO."

2. The object for which it is formed is for the accumulation and dissemination of knowledge, and the preservation and exhibition of objects illustrating Art, Archaeology, Science, and History.

3. The management of the aforesaid Museum shall be vested in a Board of FIFTEEN (15) TRUSTEES, five of whom are to be elected every year.

4. The following named persons are hereby selected as the Trustees for the first year of its corporate existence:

AMENDED BY-LAWS.

(FEBRUARY 10, 1913).

ARTICLE I.

MEMBERS.

SECTION 1. Members shall be of five classes, Annual Members, Corporate Members, Life Members, Patrons and Honorary Members.

SEC. 2. Annual Members shall consist of such persons as are selected from time to time by the Board of Trustees at any of its meetings, and who shall pay an annual fee of ten dollars (\$10.00), payable within thirty days after notice of election, and within thirty days after each recurring annual date. The failure of any person to make such initiatory payment and such annual payments within said time shall, at the option of the Board of Trustees, be sufficient grounds for the forfeiture of an annual membership.

This said annual membership shall entitle the member to:

First.—Free admittance for the member and family, to the Museum on any day.

Second.—Ten tickets every year, admitting the bearer to the Museum on pay days.

Third.—A copy of all publications of the Museum when requested.

Fourth.—Invitations to all special exhibits, receptions, lectures, or other functions which may be given at the Museum.

SEC. 3. The Corporate Members shall consist of the persons named in the articles of incorporation, and of such other persons as shall be chosen from time to time by the Board of Trustees at any of its meetings, upon the recommendation of the Executive Committee; provided, that such persons named in the articles of incorporation shall, within ninety days from the adoption of these By-Laws, and persons hereafter chosen as Corporate Members shall, within ninety days of their election, pay into the treasury the sum of twenty dollars (\$20.00) or more. The failure of any person to make such payment within said time shall, at the option of the Board of Trustees, be ground for forfeiture of his corporate membership. Corporate Members becoming Life Members, Patrons or Honorary Members shall be exempt from dues. Annual meetings of said Corporate Members shall be held at the same place and on the same day that the annual meeting of the Board of Trustees is held.

SEC. 4. Any person paying into the treasury the sum of five hundred dollars (\$500.00), at any one time, shall, upon the unanimous vote of the Board, become a Life Member. Life Members shall be exempt from all dues.

SEC. 5. Patrons shall be chosen by the Board upon recommendation of the Executive Committee from among persons who have rendered eminent service to the Museum. They shall be exempt from all dues, and, by virtue of their election as Patrons, shall also be Corporate Members.

SEC. 6. Honorary Members shall be chosen by the Board from among persons who have rendered eminent service to science, and only upon unanimous nomination of the Executive Committee. They shall be exempt from all dues.

ARTICLE II.

BOARD OF TRUSTEES.

SECTION 1. The Board of Trustees shall consist of fifteen members. The respective members of the Board now in office, and those who shall hereafter be elected, shall hold office during life. Vacancies occurring in the Board shall be filled at a regular meeting of the Board, upon the nomination of the Executive Committee made at a preceding regular meeting, by a majority vote of the members of the Board present.

SEC. 2. Regular meetings of the Board shall be held on the second Monday of each month. Special meetings may be called at any time by the President, and shall be called by the Secretary upon the written request of three Trustees. Five Trustees shall constitute a quorum, except for the election of officers or the adoption of the Annual Budget, when seven Trustees shall be required, but meetings may be adjourned by any less number from day to day, or to a day fixed, previous to the next regular meeting.

SEC. 3. Reasonable written notice, designating the time and place of holding meetings, shall be given by the Secretary.

ARTICLE III.

HONORARY TRUSTEES.

SECTION 1. As a mark of respect, and in appreciation of services performed for the Institution, those Trustees who by reason of inability, on account of change of residence, or for other cause, or from indisposition to serve longer in such capacity, shall resign their place upon the Board, may be elected, by a majority of those present at any regular meeting of the Board, an Honorary Trustee for life. Such Honorary Trustee will receive notice of all meetings of the Board of Trustees, whether regular or special, and will be expected to be present at all such meetings and participate in the deliberations thereof, but an Honorary Trustee shall not have the right to vote.

ARTICLE IV.

OFFICERS.

SECTION 1. The officers shall be a President, a First Vice-President, a Second Vice-President, a Secretary, an Assistant Secretary and a Treasurer. They shall be chosen by ballot by the Board of Trustees, a majority of those present and voting being necessary to elect. The President, the First Vice-President, and the Second Vice-President shall be chosen from among the members of the Board of Trustees. The meeting for the election of officers shall be held on the second Monday of January of each year, and shall be called the Annual Meeting.

SEC. 2. The officers shall hold office for one year, or until their successors are elected and qualified, but any officer may be removed at any regular meeting of the Board of Trustees by a vote of two-thirds of all the members of the Board. Vacancies in any office may be filled by the Board at any meeting.

SEC. 3. The officers shall perform such duties as ordinarily appertain to their respective offices, and such as shall be prescribed by the By-Laws, or designated from time to time by the Board of Trustees.

ARTICLE V.

THE TREASURER.

SECTION 1. The Treasurer shall be custodian of the funds of the Corporation, except as hereinafter provided. He shall make disbursements only upon warrants drawn by the Director and countersigned by the President. In the absence or inability of the Director, warrants may be signed by the Chairman of the Finance Committee, and in the absence or inability of the President, may be countersigned by one of the Vice-Presidents. But no warrants shall be issued, except in conformity with a regularly prepared voucher, giving the name of the payee and stating the occasion for the expenditure, and verified and approved as hereinafter prescribed. It shall be no part of the duties of the Treasurer to see that the warrants have been issued in conformity with such vouchers.

SEC. 2. The securities and muniments of title belonging to the corporation shall be placed in the custody of some Trust Company of Chicago to be designated by the Board of Trustees, which Trust Company shall collect the income and principal of said securities as the same become due, and pay same to the Treasurer, except as hereinafter provided. Said Trust Company shall allow access to and deliver any or all securities or muniments of title to the joint order of the following officers, namely: The President or one of the Vice-Presidents, jointly with the Chairman, or one of the Vice-Chairmen, of the Finance Committee of the Museum.

SEC. 3. The Treasurer shall give bond in such amount, and with such sureties, as shall be approved by the Board of Trustees.

SEC. 4. All vouchers executed for the payment of liabilities incurred in the administration of the Museum, shall be verified by the Auditor, and approved for payment by the Director, and the Chairman of the Administration Committee. All vouchers executed for expenditures for the construction or reconstruction of the Museum building, or buildings, shall be verified by the Auditor and approved for payment by the Chairman of the Building Committee. All vouchers executed in connection with the investments of the Corporation, or in any way having to do with the endowment funds of the Corporation, shall be verified by the Auditor and approved for payment by the Chairman of the Finance Committee.

SEC. 5. The Harris Trust and Savings Bank of Chicago shall be Custodian of "The N. W. Harris Public School Extension of Field Museum" fund. The Bank shall make disbursements only upon warrants drawn by the Curator of "The N. W. Harris Public School Extension of Field Museum of Natural History" and countersigned by the Auditor of Field Museum of Natural History. In the absence or inability of the said officers, warrants may be signed by such officers as shall be authorized by special resolution of the Board of Trustees of Field Museum of Natural History. But no warrant shall be issued, except in conformity with a regularly prepared voucher, giving the name of the payee and stating the occasion for the expenditure, and verified and approved by the officers above designated. It shall be no part of the duties of the Bank to see that the warrants have been issued in conformity with such vouchers.

ARTICLE VI.

THE DIRECTOR.

SECTION 1. The Board of Trustees shall elect a Director of the Museum, who shall remain in office until his successor shall be elected. He shall have immediate charge and supervision of the Museum, and shall control the operations of the insti-

tution, subject to the authority of the Board of Trustees and its Committees. The Director shall be the official medium of communication between the Board, or its Committees, and the scientific staff and maintenance force.

SEC. 2. There shall be four scientific departments of the Museum — Anthropology, Botany, Geology and Zoology, each under the charge of a Curator, subject to the authority of the Director. The Curators shall be appointed by the Board upon the recommendation of the Director, and shall serve during the pleasure of the Board. Subordinate staff officers in the scientific departments shall be appointed and removed by the Director upon the recommendation of the Curators of the respective Departments. The Director shall have authority to employ and remove all other employees of the Museum.

SEC. 3. The Director shall make report to the Board at each regular meeting, recounting the operations of the Museum for the previous month. At the Annual Meeting, the Director shall make an Annual Report, reviewing the work of the Museum for the previous year, which Annual Report shall be published in pamphlet form for the information of the Trustees and Members, and for free distribution in such number as the Board may direct.

ARTICLE VII.

AUDITOR.

SECTION 1. The Board shall appoint an Auditor, who shall hold his office during the pleasure of the Board. He shall keep proper books of account, setting forth the financial condition and transactions of the Corporation, and of the Museum, and report thereon at each regular meeting, and at such other times as may be required by the Board. He shall certify to the correctness of all vouchers for the expenditure of the money of the corporation.

ARTICLE VIII.

COMMITTEES.

SECTION 1. There shall be five Committees as follows: Finance, Building, Auditing, Administration and Executive.

SEC. 2. The Finance and Auditing Committees shall each consist of three members, and the Building and Administration Committees shall each consist of five members. All members of these four Committees shall be elected by ballot by the Board at the Annual Meeting, and shall hold office for one year, and until their successors are elected and qualified. In electing the members of these Committees, the Board shall designate the Chairman and Vice-Chairman by the order in which the members are named in the respective Committee; the first member named shall be Chairman, the second named the Vice-Chairman, and the third named, Second Vice-Chairman, succession to the Chairmanship being in this order in the event of the absence or disability of the Chairman.

SEC. 3. The Executive Committee shall consist of the President of the Board, the Chairman of the Finance Committee, the Chairman of the Building Committee, the Chairman of the Administration Committee, the Chairman of the Auditing Committee, and two other members of the Board to be elected by ballot at the Annual Meeting.

SEC. 4. Four members shall constitute a quorum of the Executive Committee; three members shall constitute a quorum of the Administration Committee, and in all other standing Committees, two members shall constitute a quorum. In the

event that, owing to the absence or inability of members, a quorum of the regularly elected members cannot be present at any meeting of any Committee, then the Chairman thereof, or his successor, as herein provided, may summon any member of the Board of Trustees to act in place of the absentee.

SEC. 5. The Finance Committee shall have supervision of investing the endowment and other permanent funds of the Corporation, and the care of such real estate as may become its property. It shall have authority to invest, sell, and reinvest funds, subject to the approval of the Board.

SEC. 6. The Building Committee shall have supervision of the construction, reconstruction, and extension of any and all buildings used for Museum purposes

SEC. 7. The Executive Committee shall be called together from time to time as the Chairman may consider necessary, or as he may be requested to do by three members of the Committee, to act upon such matters affecting the administration of the Museum as cannot await consideration at the Regular Monthly Meetings of the Board of Trustees. It shall, before the beginning of each fiscal year, prepare and submit to the Board an itemized Budget, setting forth the probable receipts from all sources for the ensuing year, and make recommendations as to the expenditures which should be made for routine maintenance and fixed charges. Upon the adoption of the Budget by the Board, the respective Committees shall be considered as authorized to make the expenditures detailed therein. No increase in the expenditures under any items of the Budget shall be made, except by authority of the Board of Trustees, but the Executive Committee shall have authority, in cases of emergency, to expend a further total sum not exceeding two thousand dollars in any one month.

SEC. 8. The Administration Committee shall have general supervision of the affairs of the Museum. The Committee shall hold one meeting each month with the Director at the Museum within a week preceding each Monthly Meeting of the Board of Trustees.

SEC. 9. The Auditing Committee shall have supervision over all accounting and bookkeeping, and full control of the financial records. It shall cause the same, once each year, or oftener, to be examined by an expert individual or firm, and shall transmit the report of such expert individual or firm to the Board at the next ensuing regular meeting after such examination shall have taken place.

SEC. 10. The Chairman of each Committee shall report the acts and proceedings thereof at the next ensuing regular meeting of the Board.

SEC. 11. The President shall be ex-officio a member of all Committees and Chairman of the Executive Committee. Vacancies occurring in any Committee may be filled by ballot at any regular meeting of the Board.

ARTICLE IX.

NOMINATING COMMITTEE.

SECTION 1. At the November meeting of the Board, each year a Nominating Committee of three shall be chosen by lot. Said Committee shall make nominations for membership of the Finance Committee, the Building Committee, the Administration Committee, and the Auditing Committee, and for two members of the Executive Committee, from among the Trustees, to be submitted at the ensuing December meeting and voted upon at the following Annual Meeting in January.

ARTICLE X.

SECTION 1. Whenever the word "Museum" is employed in the By-Laws of the Corporation, it shall be taken to mean the building in which the Museum as an Institution is located and operated, the material exhibited, the material in study collections, or in storage, furniture, fixtures, cases, tools, records, books, and all appurtenances of the Institution, and the workings, researches, installations, expenditures, field work, laboratories, library publications, lecture courses, and all scientific and maintenance activities.

SEC. 2. These By-Laws may be amended at any regular meeting of the Board of Trustees by a two-thirds vote of all the members present, provided the amendment shall have been proposed at a preceding regular meeting.



MODEL ILLUSTRATING PANEL—RETREATING SYSTEM OF COAL MINING.

HONORARY MEMBERS.

EDWARD E. AYER	STANLEY McCORMICK
HARLOW N. HIGINBOTHAM	ROBERT F. CUMMINGS
CHARLES B. CORY	MRS. TIMOTHY B. BLACKSTONE
NORMAN W. HARRIS	
DECEASED.	
GEORGE M. PULLMAN	
MARY D. STURGES	

PATRONS.

ALLISON V. ARMOUR	GEORGE MANIERRE
JOSEPH N. FIELD	JOHN S. MILLER
ERNEST R. GRAHAM	JOHN BARTON PAYNE
NORMAN W. HARRIS	FREDERICK W. PUTNAM
VERNON SHAW KENNEDY	FREDERICK J. V. SKIFF
WILLARD A. SMITH	
DECEASED.	
DANIEL H. BURNHAM	WILLIAM I. BUCHANAN
EDWIN WALKER	

CORPORATE MEMBERS.

ADAMS, GEORGE E.
ALDIS, OWEN F.
ARMOUR, ALLISON V.
AYER, EDWARD E.

BARTLETT, A. C.
BLACK, JOHN C.
BLAIR, WATSON F.
BLATCHFORD, ELIPHALET W.
BUTLER, EDWARD B

CHALMERS, W. J.
CHATFIELD-TAYLOR, H. C
CLARK, JOHN M.
CRANE, RICHARD T.

EASTMAN, SIDNEY C.
ELLSWORTH, JAMES W.

FIELD, JOSEPH N.
FIELD, STANLEY

GAGE, LYMAN J.
GETTY, HENRY H.
GRAHAM, ERNEST R.
GUNSAULUS, FRANK W.
GUNTHER, C. F.

HARRIS, NORMAN W.
HEAD, FRANKLIN H.

HIGINBOTHAM, H. N
HUTCHINSON, CHARLES L.

JONES, ARTHUR B.

KENNEDY, VERNON SHAW
KOHLSAAT, HERMAN H.

LATHROP, BRYAN

McCORMICK, CYRUS H.
MANIERRE, GEORGE
MILLER, JOHN S.
MITCHELL, JOHN J.

PAYNE, JOHN BARTON
PECK, FERD. W.
PORTER, GEORGE F.
PUTNAM, FREDERICK W.

REAM, NORMAN B.
RYERSON, MARTIN A.

SKIFF, FREDERICK J. V.
SMITH, BYRON L.
SMITH, WILLARD A.
SPRAGUE, A. A.
SPRAGUE, A. A., 2D.
STONE, MELVILLE E.

DECEASED.

ARMOUR, PHILIP D.
BAKER, WILLIAM T.
BISSEL, GEORGE F.
BUCHANAN, W. I.
BUCKINGHAM, EBENEZER
BURNHAM, DANIEL H.
CRAWFORD, ANDREW
CURTIS, WILLIAM E.
DAVIS, GEORGE R.
FITZSIMONS, CHARLES
HALE, WILLIAM E.
HARPER, WILLIAM R.
HATCH, AZEL F.
JACKSON, HUNTINGTON W.
LEITER, L. Z.

McCAGG, E. B.
McCLURG, A. C.
McNALLY, ANDREW
PATTERSON, ROBERT W.
PEARCE, J. IRVING
PETERSON, ANDREW
PULLMAN, GEORGE M.
SCHNEIDER, GEORGE
SCOTT, JAMES W.
STOCKTON, JOSEPH
WALKER, EDWIN
WALLER, R. A.
WALSH, JOHN R.
WILLIAMS, NORMAN

LIFE MEMBERS.

ADAMS, GEORGE E.
ALDIS, OWEN F.

BARRETT, MRS. A. D.
BARRETT, ROBERT L.
BARTLETT, A. C.
BLACKSTONE, MRS. TIMOTHY B.
BLAINE, MRS. EMMONS
BLAIR, CHAUNCEY J.
BLAIR, HENRY A.
BLAIR, WATSON F.
BOOTH, W. VERNON
BUTLER, EDWARD B.
BYLLESBY, H. M.

CARTON, L. A.
CHALMERS, WILLIAM J.
CRANE, CHARLES RICHARD
CRANE, RICHARD T.
CUMMINGS, D. MARK

DEERING, CHARLES
DELANO, FREDERIC A.
DICK, ALBERT BLAKE
DRAKE, TRACY C.

FARWELL, WALTER
FAY, C. N.
FIELD, STANLEY
FULLER, WILLIAM A.

GARTZ, A. F.
GRISCOM, CLEMENT A.
GROMMES, JOHN B.

HAMILL, ERNEST A.
HILL, LOUIS W.
HOROWITZ, L. J.
HOXIE, MRS. JOHN A.
HUGHITT, MARVIN
HUTCHINSON, C. L.

INGALLS, M. E.
ISHAM, MRS. KATHERINE
PORTER.

JOHNSON, FRANK S.
JOHNSON, MRS. ELIZABETH AYER
JONES, ARTHUR B.

KEEP, CHAUNCEY
KING, FRANCIS
KING, JAMES C.
KIRK, WALTER RADCLIFFE

LAWSON, VICTOR F.

McCORMICK, MRS.
McCORMICK, CYRUS H.
McCORMICK, HAROLD F.
MacVEAGH, FRANKLIN
MASON, WILLIAM S.
MITCHELL, J. J.

NEWELL, A. B.

ORR, ROBERT M.

PAM, MAX
PIKE, EUGENE S.
PORTER, GEORGE F.
PORTER, H. H., Jr.

REAM, MRS. CAROLINE P.
REAM, NORMAN B.
REVELL, ALEX. H.
ROSENWALD, JULIUS
RUSSELL, EDMUND A.
RYERSON, MRS. CARRIE H.
RYERSON, MARTIN A.

SCHLESINGER, LEOPOLD
SINGER, C. G.
SMITH, BYRON L.
SMITH, ORSON
SPRAGUE, A. A.
SPRAGUE, A. A., 2D.
STURGES, GEORGE

THORNE, GEORGE R.

WILLARD, ALONZO J.

ANNUAL MEMBERS.

ADAMS, CYRUS H.
ADAMS, MILWARD
ALLERTON, ROBERT H.
ARMOUR, GEORGE A.

BAILEY, EDWARD P.
BECKER, A. G.
BILLINGS, C. K. G.
BILLINGS, DR. FRANK
BIRKHOFF, GEORGE, JR.
BOAL, CHARLES T.
BROWN, WILLIAM L.
BURLEY, CLARENCE A.

COMSTOCK, WILLIAM C.
CONOVER, CHARLES H.
COONLEY-WARD, MRS. L. A.
CORWITH, CHARLES R.
COWAN, W. P.
CUDAHY, JOHN
CUMMINGS, E. A.
CURTIS, D. H.

DAY, A. M.
DEERING, JAMES
DILLMAN, L. M.

EISENDRATH, W. N.

FAIR, R. M.
FORGAN, JAMES B.
FORSYTH, ROBERT
FRANK, HENRY L.
FULLER, O. F.
FÜRST, CONRAD

GAYLORD, FREDERIC
GLESSNER, J. J.
GOODRICH, A. W.
GORDON, EDWARD K.
GREY, CHARLES F.
GREY, WILLIAM L.
GURLEY, W. W.

HARRIS, GEORGE B.
HARRIS, JOHN F.
HASKELL, FREDERICK T.
HERTLE, LOUIS
HIBBARD, WILLIAM G., JR.
HITCHCOCK, R. M.
HOLT, GEORGE H.
HOPKINS, JOHN P.

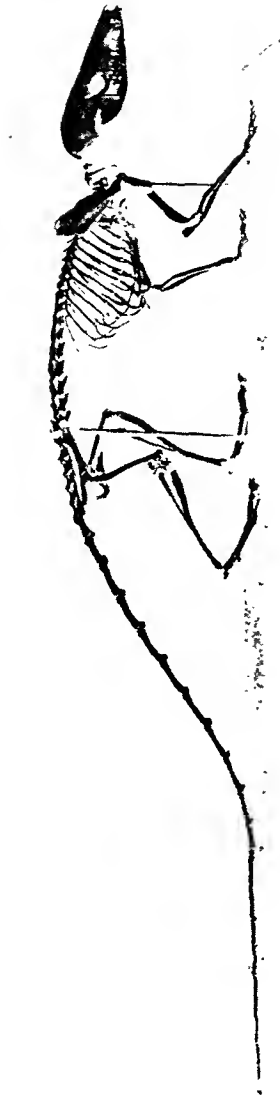
INSULL, SAMUEL

JENKINS, GEORGE H
JONES, J. S.

KEEFER, LOUIS
KEITH, W. SCOTT
KIMBALL, EUGENE S.
KIMBALL, MRS. MARK

LAMB, FRANK H.
LAY, A. TRACY
LEE, BLEWETT
LEIGH, EDWARD B.
LINCOLN, ROBERT T.
LINN, W. R.
LOGAN, F. G.
LORD, J. B.
LOWDEN, FRANK O.
LYTTON, HENRY C.

McCREA, W. S
McWILLIAMS, LAFAYETTE
MacFARLAND, HENRY J.
MAGEE, HENRY W.
MANSON, WILLIAM
MANSURE, E. L.
MAYER, LEVY
MERRYWEATHER, GEORGE
MEYER, MRS. M. A.
MILLER, CHARLES P.
MOORE, L. T.
MOORE, N. G.
MULLIKEN, A. H.



SKELETON OF *Crotaphytus wislizeni*, THOMAS (ABOUT $\frac{1}{2}$ NATURAL SIZE), FROM SOUTH AMERICA.
The specimen is unique.

NATHAN, ADOLPH
NOLAN, JOHN H.
NORTON, O. W.

OEHNE, THEODORE
ORB, JOHN A.
OSBORN, HENRY A.

PALMER, PERCIVAL B.
PARKER, FRANCIS W.
PEARSON, EUGENE H.
PINKERTON, W. A.
PORTER, WASHINGTON

RIPLEY, E. P.
ROSENBAUM, JOSEPH
ROSENFELD, MRS. MAURICE
RUNNELLS, J. S.

SCHMIDT, DR. O. L.
SCHWARTZ, G. A.
SEIPP, MRS. C.
SHEDD, JOHN G.
SHORTALL, JOHN L.

SKINNER, THE MISSES
SOPER, JAMES P.
SOUTHWELL, H. E.
SPENCE, MRS. ELIZABETH E.
SPOOR, J. A.
STOCKTON, JOHN T.
STUART, ROBERT

TEMPLETON, THOMAS
TOBEY, FRANK B.

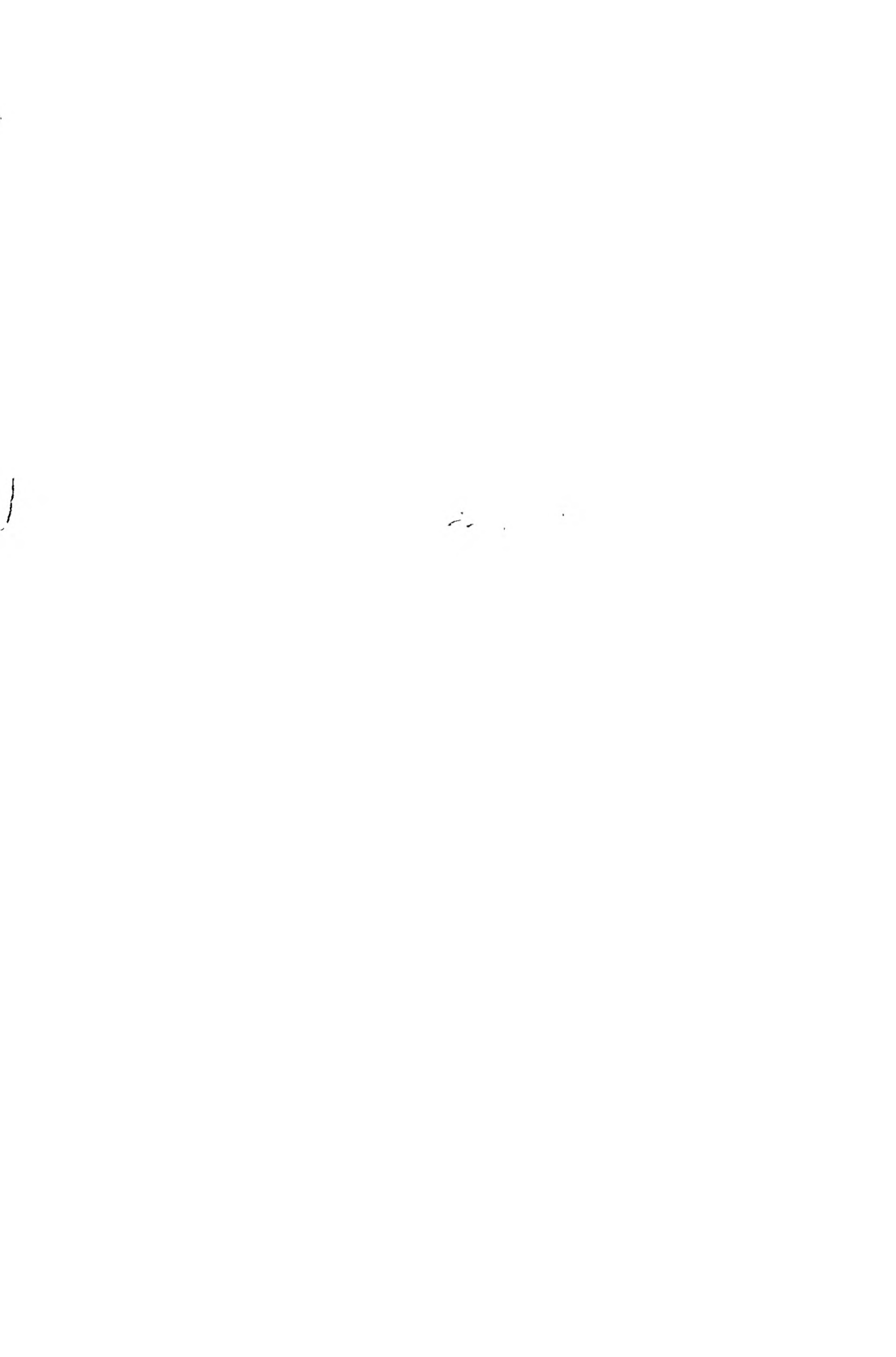
UIHLEIN, EDWARD G.

WACKER, CHARLES H.
WALKER, JAMES R.
WALKER, WILLIAM B.
WALLER, EDWARD C.
WEBSTER, GEORGE H.
WHITE, A. STAMFORD
WHITEHEAD, W. M.
WILSON, MRS. E. C.
WILSON, M. H.
WOODCOCK, LINDSAY T.

DECEASED.

BANGA, DR. HENRY
BARRELL, JAMES
DEERING, WILLIAM

HORNER, ISAAC
LEFENS, THIES J.
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THE LATE JOSEPH N. FIELD,
A Benefactor of the Museum.

FIELD MUSEUM OF NATURAL HISTORY.

PUBLICATION 181.

REPORT SERIES.

VOL. IV, No. 5.

ANNUAL REPORT OF THE
DIRECTOR

TO THE
BOARD OF TRUSTEES

FOR THE YEAR 1914.



CHICAGO, U. S. A.

January, 1915.

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ELSIE LIPPINCOTT, *Librarian.*

THE N. W. HARRIS PUBLIC SCHOOL EXTENSION.

S. C. SIMMS, *Curator.*

* Deceased July 6, 1914.

ANNUAL REPORT OF THE DIRECTOR.

1914

To the Trustees of Field Museum of Natural History:

I have the honor to present a report of the operations of the Museum for the year ending December 31, 1914.

The Twentieth Anniversary of the foundation of the Museum was ushered in with an intimation that it was necessary to curtail certain activities in the Institution, in view of the default in payment of interest on certain investments held in the Endowment Fund. There is satisfaction in announcing, however, that this condition is only temporary, for later in the year it was ascertained that the security for the investments referred to was ample to protect the Institution as to both principal and interest. The chief reduction in expenditure was effected by the temporary abandonment of work in the Modeling Sections of the Departments of Anthropology and Botany. It was felt that the postponement of this work would not seriously affect the plans of the Departments involved, and that the resumption of operations might be undertaken at any future time without detriment to the work in hand.

Probably the most important event of the year was the tender to the Board of Trustees of a site for the new Museum building in the reclaimed area south of Grant Park by the South Park Commissioners. It is confidently anticipated that ground will be broken on this site before the date of the next report. Already the greater part of the steel necessary for the construction of the building is on the ground, and of the marble necessary for the exterior of the structure more than one-half has been quarried and cut.

In view of the necessity of retrenchment in the matter of maintenance expenses, it was deemed advisable to discontinue for the present the two lecture courses hitherto given on Saturday afternoons in March and April, and October and November. The fact that there is no hall in the present building to accommodate these lectures, and the further fact that the only suitable auditorium with the requisite seating capacity is situated some seven miles from the Institution, seems to justify the temporary abandonment of this means of public instruction.

The publication of a series of picture postal cards, portraying the various objects and groups installed in the Museum, was inaugurated during the year. The sale of the cards has been encouraging, for over fifty thousand have been disposed of, although they have only been offered for sale a few months. A second series representing forty-two objects and groups in the collections will shortly be published.

The acceptance by Assistant Curator Osgood of the invitation to serve on a United States Government Commission to study and make recommendations regarding the management of the fur-seal herd on the Pribiloff Islands, deprived the Department of Zoölogy of his services for over half of the year. Leave of absence was granted to Curator Dorsey of the Department of Anthropology for approximately one year. At least two months of Dr. Dorsey's time, however, will be occupied in an ethnologic survey of British India in behalf of the Museum. The remainder of the leave granted is for a personal undertaking.

The death of Byron L. Smith, Treasurer of the Museum, in March has to be recorded. Mr. Smith had faithfully served the Museum as Treasurer since its foundation, and as an officer of the Board, a friend of the Institution, and a high-minded public-spirited citizen of Chicago, his loss will be keenly felt. Mr. Solomon A. Smith was elected Treasurer to succeed his father. The death of Mr. Joseph N. Field, a Patron of the Museum, has also to be chronicled, and as a memorial for his generosity to the Museum, the Board of Trustees by resolution have named the hall in which the South Sea Islands ethnological material is installed the "Joseph N. Field Hall." The death of Dr. Seth Eugene Meek in July of this year was a shock to his associates, and is an irreparable loss to the Department of Zoölogy, of which he was Assistant Curator for seventeen years. Dr. Meek's highly valuable services on behalf of the Institution were recognized by the Board of Trustees in formal resolutions adopted on the occasion of his death.

Mr. Carl E. Akeley in performance of his contract completed and installed during the month of December a group of African Buffalo consisting of five individuals. This group which is installed in the South Court keeps fully up to the high standard of excellence exhibited by those previously produced by him. A brief description of this addition to the Museum groups is made elsewhere in this report.

References elsewhere indicate that the activities in the Institution, more especially in the progress of installation, have been fully maintained during the year under review.



THE LATE BYRON L. SMITH,
Treasurer of the Museum Corporation since its foundation.

MAINTENANCE.—The cost of maintenance for the year amounted to approximately \$135,000, which was \$13,000 less than the amount authorized by the Board of Trustees. The total amount expended for all purposes was \$198,600 being \$38,500 less than the previous year. The difference between the cost of maintenance and the actual amount expended is accounted for by special appropriations for the purchase of collections. The necessary repairs to the building were performed by the regular maintenance force.

PUBLICATIONS.—The number of publications issued during the year was seven. These seven comprise parts of five volumes, details of which follow:

- Pub. 173.—Report Series, Vol. IV, No. 4. Annual Report of the Director to the Board of Trustees for the year 1913. 89 pages, 14 half-tones. Edition 2500.
- Pub. 174.—Zoölogical Series, Vol. X, No. 10. An Annotated List of Fishes known to occur in the Fresh Water of Costa Rica. By S. E. Meek. 34 pages. Edition 1500.
- Pub. 175.—Zoölogical Series, Vol. X, No. 11. Four New Mammals from Venezuela. By W. H. Osgood. 7 pages. Edition 1500.
- Pub. 176.—Zoölogical Series, Vol. X, No. 12. Mammals of an Expedition across Northern Peru. By W. H. Osgood. 43 pages. Edition 1500.
- Pub. 177.—Anthropological Series, Vol. XIII, No. 2. Chinese Clay Figures. Part I—Prolegomena on the History of Defensive Armor. By Berthold Laufer. 245 pages, 64 plates, and 55 text-figures. Edition 1500.
- Pub. 178.—Geological Series, Vol. V, No. 1. New Meteorites. By O. C. Farrington. 14 pages, 6 half-tones. Edition 1500.
- Pub. 179.—Botanical Series, Vol. II, No. 10. Contributions to North American Euphorbiaceæ—V. By C. F. Millspaugh. 15 pages. Edition 1500.

NAMES ON MAILING LIST

Domestic	626
Foreign	<u>704</u>
	1,328

DISTRIBUTION OF FOREIGN EXCHANGES

Argentine Republic	12	Bulgaria	1
Australia	33	Canada	29
Austria-Hungary	32	Cape Colony	6
Belgium	18	Ceylon	3
Borneo	1	Chile	2
Brazil	9	China	2
British East Africa	2	Colombia	2
British Guiana	2	Costa Rica	4

DISTRIBUTION OF FOREIGN EXCHANGES — CONTINUED

Denmark	9	Natal	3
East Africa	1	Netherlands	20
Ecuador	1	New Zealand	7
Egypt	2	Norway	8
France	56	Peru	2
Fiji Islands	1	Portugal	5
Finland	2	Rhodesia	2
Germany	138	Roumania	1
Great Britain	120	Russia	18
Greece	2	Salvador	1
Guatemala	1	Sicily	3
India	17	Spain	7
Italy	38	Straits Settlements	1
Jamaica	2	Sweden	15
Japan	9	Switzerland	23
Java	4	Tasmania	3
Liberia	1	Transvaal	3
Malta	1	Uruguay	1
Mexico	18	West Indies	3

DISTRIBUTION OF PUBLICATIONS (FOREIGN) BY SERIES

Anthropological	291	Ichthyological	165
Botanical	373	Ornithological	206
Entomological	160	Report	704
Geological	360	Zoölogical	306

DISTRIBUTION OF DOMESTIC EXCHANGES

Alabama	2	Nebraska	7
Arkansas	1	Nevada	2
California	29	New Hampshire	4
Colorado	11	New Jersey	15
Connecticut	21	New Mexico	2
Delaware	2	New York	87
District of Columbia	66	North Carolina	6
Florida	3	North Dakota	2
Idaho	1	Ohio	20
Illinois	69	Oklahoma	3
Indiana	16	Oregon	1
Iowa	15	Pennsylvania	37
Kansas	6	Rhode Island	5
Kentucky	3	South Carolina	2
Louisiana	4	South Dakota	2
Maine	7	Tennessee	2
Maryland	9	Texas	2
Massachusetts	65	Utah	1
Michigan	13	Vermont	4
Minnesota	9	Virginia	4
Mississippi	4	Washington	6
Missouri	11	West Virginia	6
Montana	2	Wisconsin	17

Wyoming	2	Philippine Islands	3
Cuba	3	Porto Rico	1
Hawaii	5		

DISTRIBUTION OF PUBLICATIONS (DOMESTIC) BY SERIES

Anthropological	232	Ichthyological	151
Botanical	304	Ornithological	160
Geological	313	Report	626
Historical	161	Zoölogical	266

THE LIBRARY.—The Library contains 64,875 books and pamphlets distributed as follows:

General Library	42,656
Department of Anthropology	3,189
Department of Botany	6,718
Department of Geology	9,181
Department of Zoölogy	3,131

64,875

There were added during the year 2,639 books and pamphlets. The principal growth has been through gifts and interchange of the Museum's publications with individuals and institutions. Among the important purchases were complete sets to date of the Transactions of the Asiatic Society of Japan; Journal für Ornithologie; Ornithologische Monatsberichte; and Ornis. Through the continued interest of friends a number of valuable publications were received. Mrs. Frank W. Barker, Chicago, presented ten parts of a rare work "The Acropolis of Ancon." Dr. Berthold Laufer, Chicago, a copy of "Epigraphische Denkmäler aus China, Part first" recently published by Dr. Laufer and Otto Franke. Publications were also received from Mrs. F. H. Chalfant of Pittsburgh; Prof. Henry F. Osborn of New York; Sir Thomas W. Northcote of London; Judge Curtis H. Lindley of San Francisco; and Prof. Alexander W. Evans of New Haven. The courtesy of several contemporary institutions enabled the Library to complete sets of their publications. The more noteworthy were: American Geographical Society New York City; British Museum London; Cambridge University, Cambridge, England; Kentucky Geological Survey Frankfort; South Park Commission, Chicago; Museum of Natural History, Marseilles, France; Royal Asiatic Society, Shanghai; Royal Botanical Garden, Edinburgh, Scotland; Royal Museum of Bohemia, Prag; Senckenbergische Naturforschende Gesellschaft, Frankfort-am-Main; Zoölogical Institute, Strassburg; Royal Society of Tasmania, Hobart; National University of La Plata, Buenos Aires. The books and periodicals bound during the year number 504. As routine work permits, the opportunity is being improved to make a

more careful and extended analysis of many sets of periodicals. There have been written and filed in the catalogues 21,000 cards. Twelve installments of the John Crerar Library library cards have been received and alphabetically arranged in the catalogue. During the summer months the Stack Room was thoroughly cleaned, and a complete rearrangement of the books made. A discarded exhibition case was fitted with shelves and converted into a temporary bookcase.

DEPARTMENTAL CATALOGUING, INVENTORING, AND LABELING.—The catalogue cards prepared by the Department of Anthropology during the year numbered 2,825, distributed as follows: Archæology, 401; Melanesian Ethnology, 1,374; Asiatic Ethnology, 1,050. These cards with the addition of 1,885 from the preceding year make a total of 4,710 that have been entered in the inventory books of the Department. Of the cards relating to American archæology some have not as yet been turned over to the cataloguer, being retained for further reference in connection with the installation of the material which they record. The number of accessions for the year is 26, of which 25 have been recorded in the inventory. The volumes of inventories number 37. The labels printed for the Department during the year number 3,045, of which 621 were for the Melanesian division, with the addition of 135 prepared for the Fiji collection by Assistant Curator Cole, 22 for American Ethnology and over 2,000 for the Division of Asiatic Ethnology. The photographic prints prepared for the Department were classified and arranged in albums, of which 11 volumes were added to the series, 9 containing photographs of Chinese and 2 of Tibetan specimens.

The Curator of Botany reports the preparation of 650 labels. Of these all that have been printed have been placed against the objects installed. The complete card catalogue of all the collectors and geographic regions represented by specimens installed, containing over 12,000 cards, has been finished and arranged in a new and readily referable steel index case. This catalogue is unique and of the greatest value not only to students of the world of plants, but to the efficiency of the Department itself. The work of inventorying the specimens organized has been kept up to date, 7,521 entries having been made during the year, making the total number of entries 412,486.

The material catalogued in the Department of Geology during the year included 590 mineral specimens, 355 economic specimens, and 364 miscellaneous. A total of 2,138 labels was prepared during the year, of which 891 have been printed and distributed. The most important series of these was that for the meteorite collection, the number made for that purpose being 1,003. These labels show for each specimen the classification of the meteorite, the locality of the fall or find, date



EAST AFRICAN BUFFALO (*Syncerus caffer maddisfordi*).

C. E. Akeley, Taxidermist.

of fall or find, the weight of the specimen and its catalogue number. A large number of miscellaneous labels in addition were prepared relating mostly to material received during the year. Several of these labels were descriptive. Some of the series thus labeled include the asphalt collection, a part of the petroleum collection, the collection of Japanese volcanic material, the amber collection, a series of mammoth and mastodon teeth, and about 200 miscellaneous specimens of minerals. The descriptive labels in Higinbotham Hall were provided with white frames corresponding in color to the interior of the cases in order to give a more attractive appearance to the installation.

In the Department of Zoölogy cataloguing and labeling of specimens was continued as usual. In the various inventory books all new material received from Museum expeditions during the year was promptly entered as soon as the specimens were identified, and also card-catalogued. Some rearrangement in the mammal and bird collection has been made, and the revision of old labels continued. The work of rearranging and transferring the exhibition collection of shells to new cases was commenced and about 2,500 specimens were placed on newly prepared tablets and a new arrangement of labeling adopted. Under the supervision of Assistant Curator Gerhard the entire time of one assistant was devoted to this work. The preparation of labels for the shells to be installed in the new cases is now progressing. The entire collection of humming-birds, including about 400 species and subspecies, was rearranged in new trays and properly card-catalogued, and labels for specimens of reptiles, fishes, and crustaceans, placed on exhibition during the year, have been prepared and installed. The large mammal skins stored in the basement of the Museum have been rearranged, listed, and catalogued in such a way that they are now readily accessible for quick reference.

The following table shows the work performed on catalogues and the inventorying accomplished:

	No. of Record Books	Total No. of Entries to Dec. 31, 1914	Entries During 1914	Total No. of Cards Written
Department of Anthropology	37	131,240	4,710	133,606
Department of Botany	57	412,486	7,521	.....
Department of Geology	21	129,345	1,309	7,705
Department of Zoölogy	40	94,160	2,255	30,045
The Library	14	96,890	1,025	185,692
Section of Photography	15	110,827	3,599	.....

ACCESSIONS.—The majority of accessions credited to the Department of Anthropology for the year have been made possible through the generosity of friends. The collection of classical archæology has

been increased by two gifts of Mr. Edward E. Ayer — a large Etruscan bronze vessel with chain handle and a small variegated glass bottle from Egypt. Two other Italian bronze cistas of the third century B. C., acquired by Mr. Ayer in Rome, were purchased by the Museum. These specimens belong to a type now very scarce, and seldom, if ever, offered for sale on the market. A diorite statuette of a woman from Egypt, of great artistic beauty, likewise obtained by Mr. Ayer, was secured through exchange. The section of North American archaeology received from Mr. F. Schrott a flaked knife-blade of chert, and from Mr. Clarence B. Moore of Philadelphia an assortment of archaeological material. Fifty arrowheads and two stone axes from Rock Hall, Maryland, were secured through exchange with Mr. George C. Roberts. To Mr. Homer E. Sargent the Department is indebted for an ancient gold ring from Mexico which has been added to the exhibits of American gold jewelry in Higinbotham Hall. Dr. W. S. Lowe, Phoenix, Arizona, presented several sections of cane stem, some wrapped up with a small cotton fabric, found under a ledge of rock in the Camelback Mountains, fifteen miles northeast of Phoenix, and to have served as an offering. American ethnology has been enriched by a gift from Mr. Richard G. Ellis, consisting of a rawhide lariat, wooden bow with skin case, a stone celt, and a stone disc; and by a gift from Mrs. Frank A. Devlin of Chicago, comprising three finely carved cups of pod from Costa Rica (modern) and two prehistoric pottery vessels from the same locality. The following acquisitions from Assistant Curator Owen's recent expedition to Arizona have been added: three finished two-faced Navaho blankets, and one in the loom during the process of working, two-thirds being finished; specimens of yarn, and implements used in weaving. Mr. Cleaver Warden, Carlton, Oklahoma, presented the Museum with a peyote outfit of the Arapaho. Mrs. Frank W. Barker of Chicago presented the Museum with a miscellaneous lot of 17 objects from Italy, Egypt, India, northwest coast of North America, Hawaii, and Micronesia. The following gifts were received by the section of Asiatic Ethnology: a rhinoceros-horn presented by Mr. F. W. Kaldenberg of New York; a Japanese gold piece (10 yen), and a Japanese rectangular silver coin from Mrs. T. B. Blackstone; three printing-blocks from the Examination Halls of Nanking from the Curator; an interesting mariner's compass, enclosed in a copper case, from Mr. Thomas Mason. Three paintings representing polo matches, one album with 25 flower-pieces painted on silk, and another containing an Atlas of Hunan Province with sixteen hand-painted colored maps, were presented by Dr. John R. Taylor, in recognition of services rendered him in the identification of his collection

of Chinese paintings. The most important gift accessioned during the year are two exquisite silk-embroidered hangings presented by Dr. F. W. Gunsaulus, who has always evinced a keen and generous interest in the work of the Museum. These specimens were made in the Imperial Atelier for use in the Palace, and are classical examples of the marvelous skill attained by the Chinese in art needlework. They have been placed on exhibition in special wall-cases in Hall 45. The Museum is further indebted to Dr. Gunsaulus for two Japanese water-colors, framed, one illustrating the pounding of tea-leaves preparatory to the tea-ceremonies, the other showing a woman engaged in painting. Three notable acquisitions for the Chinese Collection were effected by purchase. The generosity of Mrs. T. B. Blackstone enabled the Museum to secure a famous collection of ancient Chinese coins, 690 in number. This numismatic collection is of intrinsic scientific value, including, as it does, many rare and unique ancient specimens; particularly it abounds in those earliest forms of currency, bronze-cast sham-implements, like knives, axes, spades, bells, etc., which are of specific archaeological interest in permitting a study of the development of these ancient utensils. Mr. Chalfant, the collector, unfortunately met a premature death on January 14th, at the age of 52; his collection of ancient bone carvings, reference to which was made last year, and the coin collection in question, remain the most enduring monument of his fruitful activity and his serious aspirations. Mr. Chalfant had spent the last seven years of his life on the decipherment of the inscriptions on these bone carvings and left a voluminous manuscript on this work in two quarto-volumes. Mrs. Chalfant has placed this manuscript with others in the trust of Associate Curator Laufer, with the request that he take charge of the publication thereof. Two nephrite tablets from an imperial jade book, the one inscribed in Manchu, the other engraved with a pair of dragons, were purchased from Mr. Hackett. Through the services of Mr. W. W. Simpson, an American missionary in Taochow, Kansu, China, the Museum succeeded in obtaining the seal and grant conferred upon the Taochow Lama Temple by the Emperor K'ang-hi in 1713. When Dr. Laufer secured the remaining spoils of this temple at the time of his sojourn at Taochow in 1910, it was impossible to get hold of these documents, as the abbot of the monastery is not permitted to part with them without the sanction of the high Church Dignitaries of Lhasa. Word was accordingly left with Mr. Simpson, requesting him to arrange for this transaction, which is now felicitously concluded. The large, square seal is carved from wood surmounted by the figure of a standing lion which serves as a handle; the K'ang-hi date-mark is engraved on the top. The grant is written

out in Tibetan on imperial yellow silk, which has dragons and other designs woven in, and is stamped with numerous seals. These unique objects naturally are of principal value to the Museum, inasmuch as they furnish substantial evidence for the fact that all treasures in its possession from the Lama Temple in question were indeed turned out during the K'ang-hi era (1662-1722) and prior to the year 1713.

In the Department of Botany considerable valuable material for exhibition purposes has been received. The Chicago Varnish Company has presented a very complete and valuable collection of 344 characteristic specimens of natural varnish gums, many of them the largest, clearest, and most typical examples of their kind known. These have been fully labeled and installed in two cases, accompanied by tubes of varnishes made from each class of gum exhibited. From the Philippine Bureau of Education a series of 147 typical fibers and objects utilizing the same have been received and installed among other objects belonging to the various families of plants they illustrate. Dr. Laufer has presented the Department with several characteristic specimens of "brick Tea" and of paper and raw material illustrating Chinese paper made from Derge roots. The U. S. Bureau of Plant Industry has sent in 168 specimens of crude drug substances that will serve to fill many gaps in the systematic exhibitions of plant products. The U. S. Forest Products Laboratory has contributed, in exchange, 44 examples of wood-paper pulps and papers made therefrom. The Forest Economist of India has presented 19 valuable forest products of India that assist greatly in the representation of the economics of several plant families, and the Section of Modeling, during the last month of its labors, turned over 7 models of desmid species; 9 models of diatom species; a full-size reproduction of a leafy, fruiting branch of the Horsechestnut tree; a full-size reproduction of a flowering twig of the same; a full-size reproduction of a pandanus fruit, a chocolate fruit, cakes of manufactured chocolate, and several sections of the fruit of *Connarus*. The important additions to the herbarium during the past year comprise the following: The private herbarium of Mr. Geo. F. Curtiss, consisting of ferns of central North America, presented by Miss E. Curtiss; the private herbarium of Miss Carrie A. Reynolds, consisting of plants collected in northwestern North America, presented by herself; the private herbarium of Mr. C. W. Dusener, consisting of plants collected locally in Illinois and Indiana, presented by himself; and the following: Abbon, Mexico, 70; Adole, Mexico, 106; Arsene, Mexico, 689; Britton, Cowell & Shafer, Vieques Isl., 72; Britton and Shafer, Porto Rico, 217; Curacao, 51; Britton, Stevens & Hess, Porto Rico, 78; Broadway, Tobago, 56; Buchtien, Bolivia, 201; Cowles, northwestern North Amer-

ica, 1,240; Curtiss, Jamaica, 136; Elmer, Philippines, 863; Flora Exscicc. Austria-Hung., 310; Harris, Jamaica, 107; Heller, California, 169; Nevada, 242; Lansing, Illinois, 207; Macoun, Ontario, 48; Vancouver, 124; Millspaugh, Michigan, 68; Natal Botanical Gardens, South Africa, 101; Nicolas, Mexico, 120; Pennell, Gerardia, 56; Purpus, Mexico, 408; Huron Smith, Illinois, 160; Visher, South Dakota, 51; Tonduz, Costa Rica, 55; Wenzel, Philippine, 146; and Wood, Natal, 95.

	Added to Herbarium 1914.	Total now in Herbarium.
ALASKA:		
Coronation Island	1	1
CANADA:		
British Columbia	5	1,017
Nova Scotia	5	382
Cape Breton Island	1	28
Sable Island	2	37
Ontario	51	675
Prince Edward's Island	1	12
Quebec	36	181
Ungava	2	62
Vancouver Island	132	710
Newcastle Island	3	3
Brandon Island	1	1
Yukon	1	70
UNITED STATES:		
Alabama	4	1,337
American Plains	7	219
Arizona	6	9,448
Arkansas	5	422
California	186	24,040
Carolina, North	17	4,574
Carolina, South	22	1,035
Colorado	6	11,787
Connecticut	14	555
Dakota, South	51	1,093
Delaware	5	1,593
District of Columbia	21	2,373
Florida	23	20,716
Big Pine Key	2	2
Georgia	8	4,562
Illinois	412	21,052
Indiana	45	5,908
Iowa	1	1,762
Kansas	7	506
Louisiana	14	1,296
Maryland	28	1,107
Massachusetts	62	3,184
Michigan	72	4,003
Minnesota	1	1,599
Missouri	5	3,020

	Added to Herbarium 1914.	Total now in Herbarium.
UNITED STATES:		
Nebraska	1	414
Nevada	245	1,256
New Hampshire	5	1,486
New Mexico	8	2,961
New York	11	6,057
Pennsylvania	16	10,861
Rocky Mountains	4	1,395
Tennessee	5	1,457
Texas	56	9,764
Virginia	30	4,703
Vermont	15	2,675
Wyoming	1	930
CENTRAL AMERICA:		
Canal Zone	2	53
Costa Rica	59	611
Guatemala	5	2,886
Honduras	2	343
Mexico (in general)	1,469	35,738
Yucatan	1	4,691
Nicaragua	4	92
Panama	10	71
San Salvador	1	24
WEST INDIES:		
Anegada	3	26
BAHAMAS:		
Andros Island	3	1,732
Crooked Islands	4	335
Inagua	3	443
Bermuda	7	657
Cuba	11	9,778
Hayti	1	305
Jamaica	308	7,388
Porto Rico	586	4,586
Culebra Island	1	221
Desecheo Island	7	7
Mona Island	24	24
Vieques Island	75	75
St. Thomas	1	621
Santo Domingo	1	1,379
Tobago	57	570
Trinidad	4	482
SOUTH AMERICA:		
Bolivia	202	3,715
Venezuela	1	1,064
Curaçao Island	51	93
Peru	39	129
Colombia	1	2,424
British Guiana	4	75
Brazil	3	513

	Added to Herbarium 1914.	Total now in Herbarium.
EUROPE:		
Austria-Hungary	55	7,067
Bulgaria	1	2
England	2	681
France	16	4,540
Germany	33	7,131
Greece	5	530
Italy	9	2,500
Mediterranean Islands:		
Corsica	2	54
Sardinia	1	8
Sicily	14	124
Poland	1	49
Portugal	3	14
Russia	7	1,600
Roumania	1	31
Servia	1	125
Spain	2	141
Switzerland	1	2,615
AFRICA:		
Canary Islands	1	47
South Africa	16	1,259
Cape Colony	3	84
Natal	89	750
Zululand	11	160
ASIA:		
Borneo	1	8
China	1	324
Mongolia	1	2
India	1	1,038
Java	1	102
Siberia	1	430
OCEANIA:		
Australia:		
New South Wales	1	526
Victoria	6	494
Sandwich Islands	3	465
Horticultural	28	2,650
Illustrations, Drawings, etc., mounted as herbarium sheets	233	1,245

In the Department of Geology a number of accessions have been received by gift, many of which are of unusual value. The most important of these is a skeleton of the American mammoth formerly belonging to the Chicago Academy of Sciences, which was presented through the generosity of Mr. George Manierre. This skeleton was, until recently, the only mounted skeleton of a mammoth on exhibition in America, and it still remains one of the most nearly complete and important. The skeleton was found in 1878 in Spokane County,

Washington. Owing to its fragile nature and the probability that it might not remain long in the present Museum building, it was decided not to remount the specimen at this time, and it has not, therefore, been placed on exhibition. A valuable collection of minerals, with some fossils, the whole numbering about 300 specimens, was received from Miss E. Curtiss. Many of these specimens were of exceptional beauty and rarity. A somewhat similar, though smaller, collection numbering 48 specimens was received from Harold Wegg. It was chiefly valuable for its series of Mazon Creek fossils. Two large specimens of fossil logs, collected by Prof. R. D. Salisbury on his recent trip to Patagonia, were received during the year and made an appreciated addition. From Mr. Charles Winston eight exceptionally fine specimens of Carboniferous plants from Pennsylvania and Rhode Island were received. Some of these were of importance as having been cotypes of Lesquereux and all are large and well-preserved specimens. Two excellent specimens of fossil glass sponge, *Hydnoceras bathense*, in group form were generously presented by the New York State Museum. An excellent specimen of fossil fish from Wyoming was presented by Mrs. E. F. Goodall. The skull of a Bison, found in an excavation near 67th Street, Chicago, was presented by Thomas Farley. This is one of few occurrences known showing the distribution of the buffalo in this vicinity. D. S. Renne, Verona, Illinois, presented two large specimens of septaria, which are interesting specimens of this type. From the Dolese & Shepard Company were received two excellent specimens of *Orthoceras* found near Chicago. Besides the above a number of specimens of economic interest were received through the kindness of donors. Among these may be mentioned six specimens of gold and silver ore from San Bernardino County, California, presented by Dr. T. A. Dumont; 27 examples of minerals and ores from Montana, presented by Mr. J. E. Strawn; 15 specimens of gold ore from the Bella Mañana Mine, Tlatlaya, Mexico, from William Brockway; 10 specimens illustrating the manufacture of tungsten lamps, from the General Electric Company; two specimens of platinum and gold ore from the Boss Gold Mining Company of Nevada; three specimens of vanadium ore from the American Vanadium Company; 46 specimens of asphalt and its products and two large photographs of Trinidad Lake, from the Barber Asphalt Company, and 11 specimens of coal tar and its products from the Barrett Manufacturing Company. Dr. F. C. Nicholas presented a series of instructive specimens, which represented ores and lavas of Sonora, Mexico, and Messrs. L. V. Kenkel and H. V. Guild about 150 specimens of fossils and minerals from Idaho. In response to a number of requests sent to producers of building stones and marbles,



SKELETON OF MAMMOTH (*Melops (Columb)*) FROM SOUTHERN WASHINGTON.
Gift of Mr. George Manierre. (To be remounted.)

a number of cubes and marble slabs were added to the building stone collection, making it more representative than formerly. Twenty-one specimens were received from these donors. By exchange a number of important specimens were received, the most important being a large and complete skeleton of the European Cave Bear from Austria. This and a skull of the fossil whale (*Zeuglodon*) from Egypt were received from Dr. F. Krantz. From the University of California there was received by exchange a practically complete skeleton of the sabre-tooth Cat from the Rancho la Brea beds of California. From Grebel, Wendler & Company there was received a fine series of Brazilian phenacite crystals, numbering 21 specimens. From Mr. George S. Scott of New York City were received by exchange 14 specimens of various minerals; from Prof. H. B. North of Rutgers College, 8 specimens of pseudomorphs after marcasite; and from the Royal Ontario Museum, Toronto, three large polished specimens showing the occurrence of the silver and nickel ores of Cobalt, Ontario. By purchase the Bishop Canyon meteorite was obtained entire; also the Scott City meteorite, nearly complete, and a large etched section of the Mount Edith, Australia, meteorite. Other purchases included: 163 specimens showing varieties and modes of occurrence of German amber; an interesting series, numbering 42 specimens, showing products of the eruption of the volcano of Sakurajima, a specimen of a "bread crust" bomb in this series being of especial importance; a large specimen of *Orthoceras*, measuring six feet in length; a series of models of diamonds cut from the Cullinan diamond; and 11 teeth and two tusks of a young mastodon.

The Curator of Zoölogy reports that an important addition to the Entomological collection was received from Dr. William Barnes of Decatur, Illinois, who presented to the Museum a collection of about 3,500 moths, which are in fine condition and many of them will ultimately be used for the exhibition collection. Miss Elizabeth F. Curtiss also presented to the Museum a collection of butterflies containing some 1,700 specimens, which may supply some material for exhibition purposes. A rare species of Sphinx Moth (*Trogolegnum pseudambulyx*) from Mexico, a gift from Mr. B. Preston Clark of Boston, was new to the Museum collection. The mammals and birds received from Museum Expeditions were of much scientific value and contained several new forms, which are being studied and will be the subjects of papers now being prepared for publication. The most important donation received was that of 26 large mammals and 3 birds from East Africa, presented by Mr. Brent Altsheler of Louisville, Kentucky. The collection consisted of 3 Ostriches, 4 Impala Antelopes, 1 Hartebeest, 2 Waterbuck, 1 Wart Hog, 2 Elands, 1 Lioness, 3 Grant's Gazelle, 3

Oryx, 2 Dik Dik, 1 Klipspringer, 4 Gerenuk, 1 Buffalo, and 1 Jackal. Mr. E. B. Williamson of Bluffton, Indiana, presented a number of birds during the year, and his continued interest is much appreciated. Judge R. M. Barnes of Lacon, Illinois, presented a body of the rare Trumpeter Swan. An albino crow was purchased. The Osteological collection was enlarged by 445 skulls cleaned for the study collection, and 5 skeletons were prepared and installed in the exhibition collection.

EXPEDITIONS AND FIELD WORK.—At the beginning of the year the Museum had two zoölogical collectors in the field: Malcolm P. Anderson in Venezuela, and Robert H. Becker in Brazil. In January Mr. Anderson proceeded to Peru and worked in high altitudes in the Andes Mountains east of Chimbote, later going to Lake Junin (altitude 14,000 feet). After leaving Lake Junin May 7th, he spent a month collecting in the vicinity of San Ramon on the Rio Chanchamayo, and sailed for home early in June. While Mr. Anderson secured valuable material, the specimens were less in number than could have been expected, owing largely to a series of unfortunate accidents. In January, Mr. Becker proceeded from Rio de Janeiro, Brazil, to Lagoa Santa in the State of Minas Geraes, where he made an important collection of birds and mammals. He then proceeded up the Rio San Francisco to Barra, and from there pushed on up the Rio Preto to and beyond Formosa, a small native town in a very little known region in the interior of Brazil. This country has not been worked by collectors, and it is unfortunate that after surmounting difficulties in reaching there, his stay had to be limited to two weeks. Interesting mammals and birds were secured, some of which are new and will be the subject of a publication in due time. Coming down the Rio Preto on a raft, which he built, Mr. Becker reached Barra safely, and from there went on to Bahia and took a steamer to Trinidad, where he had been directed to secure material for a group of Oil Birds (*Steatornis caripensis*). The birds, eggs, nests, and accessory material were obtained, also photographs of the caves in which the birds live, and the group is now in process of construction.

INSTALLATION, REARRANGEMENT, AND PERMANENT IMPROVEMENT.—A most encouraging feature of the work performed in the Department of Anthropology during the current year is that, despite the reduction of the force rendered necessary in January, the progress of installation has been fully maintained to a remarkable degree, and, in fact, the work in every line of activity has been pursued with energy and devotion. A total of 70 new cases has been placed on permanent exhibition, all fully and completely labeled. The material installed in these cases is distributed as follows: Southwest Ethnology, 5 cases; New Hebrides, 12

cases; Admiralty Islands, 12 cases; Fiji, 8 cases; Chinese, 19 cases; Tibetan, 14 cases. As regards American ethnology, one case of Apache medicine shirts, one case of painted buffalo hides, two cases bearing on Paiute ethnology from California and Nevada, and one case of Pima storage baskets have been added to the Southwest Section, under the personal supervision of Assistant Curator Owen. Hall 8 has been cleared of nine cases of Borneo, three of Andaman and Nicobar, and one of Malay Peninsula material, these thirteen cases being stored indefinitely with the great number of installed cases already on the floor of the East Court. As Halls 2 and 3 have recently been devoted to the exhibition of New Hebrides, Admiralty and Fiji ethnology of the Joseph N. Field Collections, this arrangement resulted in the necessity of removing the following cases for storing in the East Court: three Sauk and Fox, one Iroquois, one painted buffalo hides, two Apache, two Warm Springs, three Shoshoni, one Klikitat, one Yakima, two Ute, two Wasco, one Comanche, one Bannock, one Kutenai, one Umatilla, and two Nez Perce. More than ninety boxes containing the Stanley McCormick Hopi material have been unpacked in Hall 16. The material has been classified and placed temporarily in new cases and storage bases, awaiting permanent installation with the exhibits of Hopi ethnology which, for the past fifteen years, have been displayed in Halls 15, 16, and 17. In Hall 17 the Hopi Home Case has been completely overhauled, the clothing renovated, and the five life-size figures repainted. Nine altar cases in the same Hall have also been subjected to a most careful and thorough examination and readjustment.

Peruvian pottery, particularly from Chancay, and Egyptian tomb tablets have been properly treated and cared for to insure their preservation. About 400 photographs which had been stored in Hall 48 for many years have been identified as belonging to about thirty tribes, and each lot has been placed in the cases where the respective tribal group is represented. Many of these prints, varying in character and quality, show scenes no longer obtainable, and before being permanently installed in the various cases, should be copied on permanent paper for exhibition purposes, while the old solio prints may be preserved for the Department albums.

During the year Assistant Curator Lewis has installed thirty-two cases of Melanesian material. These, with cases installed towards the end of the previous year, include the collections from Fiji, the New Hebrides Islands, and the Admiralty Islands. Assistant Curator Cole coöperated with Dr. Lewis and superintended the installation of the material from the Fiji Islands, which fills seven cases, illustrating the clothing and ornaments, household utensils, weapons, and various

industries of the natives. The manufacture of tapa, an industry common throughout the whole of the South Seas, is well illustrated by numerous specimens of the implements used in the process, as well as by a great variety of finished product. Fourteen cases of New Hebrides material make an exhibit fairly representative of the culture of these islands, many of which have now almost completely lost their original features. The collections are most complete from Malekula, the largest and least known of the whole New Hebrides group. In this island alone over twenty languages are spoken, and the culture is by no means uniform. The collection illustrating the ceremonial and religious life of this people,—consisting of carved images, masks, prepared skulls, and figures of the dead,—is unusually complete. The various types of weapons employed by the tribe are also well illustrated, though many forms still remain to be represented. The Admiralty Island collection now occupies fourteen cases, while a considerable portion of it is not yet placed on exhibition. This collection is notable for the wealth in objects characteristic of the high degree of skill reached by these people in wood carving and decorative art. Particularly striking are the huge drums, finely carved food-bowls, some of them four feet in diameter, decorated wooden beds, and numerous carved images of various sizes,—all manifesting a well-developed artistic sense. There are several series showing the variations of design from realistic to conventional and geometrical stages, such as displayed by the forms of decorations on spears, daggers, and combs. Interesting groups of decorative elements are also seen in their personal ornaments, among which are included over 300 breast ornaments of shell and tortoise-shell, all different in decorative design despite the uniformity of type, and presenting excellent source-material for the study of variability of ornamental forms. There is also shown an extensive series of shell-bead dancing-aprons, which are rare. The process in the making of these shell beads is illustrated by numerous specimens in the consecutive stages of the work. Methods of fishing, including that of fishing by means of flying kites from canoes, which is restricted to a few localities, and the manner of preparing articles of food, are likewise shown, together with models of various types of canoes. Worthy of particular mention are the four remarkable feather masks from Hansa Bay, New Guinea, presented by the late Mr. Joseph N. Field, and now placed on exhibition in the East Court. The Melanesian collections, thus briefly outlined in their main contents, have been assembled in Halls 2 and 3, which were thrown open to the public in the beginning of November. In addition to the installation and labeling of cases, much work has been accomplished by Assistant Curator Lewis in overhauling and sorting

out the different collections from other parts of Melanesia already in the Museum, many of which had not been catalogued. This cataloguing is now being pushed on with energy, and approximately 900 specimens of the Parkinson collection, as well as a few other small collections, have been entered and numbered.

In the Asiatic Section installation has progressed steadily. Two large special cases designed for the Chinese stage-scenes were delivered in January, and all material and labels relating to these exhibits having been fully prepared in advance, their installation was achieved without delay. This completed the exhibits of Hall 53, which is now entirely devoted to a display of Chinese theatricals. Moreover, two new Halls have been added this year to the existing six, referred to and described in preceding Reports, and made accessible to the public. The Tibetan collection secured under the auspices of the Mrs. Blackstone Fund has received a further extension in Hall 50, which consists of 12 cases illustrating the domestic, social, and religious life of the Tibetan people in the following phases: objects used in the household; consumption of food, including articles of food, as well as the utensils serving for their preparation; consumption of tea; consumption of spirits and tobacco; basketry; ceremonial silk scarves exchanged by people in social intercourse; writing and printing; charms and domestic art; musical instruments, censers and other objects, and paraphernalia employed in the temples for religious worship. The case illustrating the process in the production of paper and books is of great culture-historical interest; it forms a counterpart of the case arranged two years ago and displaying the arts of printing and engraving in China and Japan. It contains exquisite specimens of Tibetan manuscript work written in gold and silver on black-lacquered paper, manuscripts illuminated by colored miniatures, in which the Lama scholars excelled as successfully as the mediæval monks, and fine samples of Tibetan and Mongol prints; especially notable are some books printed in vermilion in the Imperial Palace of Peking (so-called palace editions), and one of the largest and heaviest books ever turned out (93¼ pounds in weight; pages measuring 2 feet 10½ inches in length and 14½ inches in width). The case, further, contains an interesting autograph written in vermilion ink by the Dalai Lama with his own hand and transmitted by him to Mr. Laufer for presentation to the Field Museum when he had an interview with him at Peking in 1908; there is also on view an attractive series of seals with wax reproductions of their inscriptions, writing-utensils, and appliances of the printer. Hall 49, which had served during the last years as a storage-house for the East-Asiatic material and as the basis of operation to prepare and catalogue it, has been

entirely cleared, as it is planned to utilize this room for the continuation of the Tibetan exhibits, which will comprise means of transportation, saddlery, industries, costumes, jewelry, painting, and the culture of the Tibetan nomad tribes. Owing to this arrangement it was made possible to relieve the congestion prevailing in the East Court by transferring 24 new cases to Hall 49. A Tibetan coracle and the trappings of a horse, shown on a papier-maché model, are already installed in this Hall.

Much time was consumed on the final installation of the large collection of Chinese stone sculpture. The pieces are of great dimensions and heavy in weight, and required drilling of their bases to secure solid and permanent intrenchment on the shelves. The material is installed in 12 two-foot cases, eight of which have been placed in the Rotunda of the East Annex, Hall 58, which seemed to offer the most suitable location. In order to make the best use of the available space, the principle of concentric arrangement has been adopted, the centre being occupied by a small special case sheltering an octagonal pillar inscription of the T'ang dynasty,—an important historical document which records the capture of the city of Taochow in Kansu Province through the Tibetans in the eighth century. From this centre radiates the collection of sculpture with an inner ring of four cases arranged in a square, and fortified by an outer ring of four others, flanking the niches. The distribution, balancing, and classification of the material in the cases proved a task beset with no small difficulties, partially due to the difference in bulk and weight of the single sculptures, partially owing to the repetition of the same types through the various periods of Chinese history. A chronological principle and simultaneously one according to religious types and subjects has been brought into effect. The collection well demonstrates the development of Chinese sculpture in its total range from the fourth to the eighteenth century, embracing the two religions of Buddhism and Taoism. Three main chronological divisions have been established: the early or pre-T'ang period, fourth to sixth century, mediæval or T'ang period (618-906), and the retrospective modern or after-T'ang epoch. The assemblage of ancient Taoist sculpture is probably unique and exceptionally rich in beautiful statues of the Supreme Deity of the Taoist pantheon; it fills two cases which have been added to the Taoist section in Halls 46 and 47,—one of these harboring in addition tombstones and inscription tablets of the T'ang period. A goodly number of Taoist sculptures has been incorporated in the Buddhistic department, in order to bring out the idea of the dependence of Taoist on Indian-Buddhist art and the interrelations of the two religions. As regards the exhibits of Buddhist statuary, the general scheme of division followed is: the Buddhas, the



ITALIAN BRONZE CISTA, THIRD CENTURY. B. C

Bodhisatvas, and the clergy, under each of the three chronological epochs. One case is entirely devoted to the portrait-statues of Buddhist monks from the T'ang period to the present, as in this manner a most striking phase in the religious and mental development of China is very forcibly impressed upon us. Nothing could better illustrate the ennobling influence of Buddhism on Oriental society and its lofty intellectual aspirations than these portraits of religious leaders with their refined and spiritualized features, and their sermon of salvation. It should be said that the present condition of the Halls does not permit of adherence to a rigidly scientific system of classification of these exhibits.

In the Department of Botany cases representing the following economic exhibitions have been installed and fully labeled during the year: four case units of Varnish Gums; one case unit illustrating the Cycad family and its products, especially its starch roots and starches; one case unit containing the Gingko and the Yew families and their characteristic fruits and utilizations; a case illustrating in complete groups the Bacteria and their life history, the Diatoms and their methods of reproduction and growth, the Desmids and their life characteristics, and the unicellular Algæ; a case illustrating all the phases in the life history of the Marchantiaceæ; one unit case containing the Morning-glory family and characteristic products; three case units of the Rubiads and their products, including an interesting reproduction of the plant known as the "living ant's nest"; one unit case illustrating the products of the Maple family; a unit devoted to the fruit of the Coco-de-mer palm and the uses to which it is put; one unit case each comprising the products of the Milk-weed and the Horsechestnut families; a case containing both the Passionflower and the Benzoin families and their utilized products; two units exemplifying the various uses supplied by the Ferns; three units devoted to the Grass family, especially the fibers yielded by various species; one case each exemplifying the characters and uses of fibers yielded by the Screw-pine, the Sedge, the Palm, the Eel-grass and Banana families; one case exemplifying the botany and products of the Snakeroot family; one case containing both the Elm and the Protead families; one case containing new products of the Fig family; two unit cases devoted to the fruit characters, and various useful products of the Sumach family; one case devoted to the products of Yam and the Iris families; a case containing various characters and useful products of the Coca family; one case illustrating the Lignum-vitæ and the Quassia families; one unit case showing the products of the Mahogany family; two units devoted to the Connarus and the Bean families; one case comprising the characters and useful materials yielded

by the Buttercup and the Akebia families and another the Barberry and the Moonseed families; and three cases representing the botany and products of the Monkey-pot and the Pomegranate families.

In the Department of Geology two large mounts have been installed in Hall 36. One of these is the large *Leptomeryx* slab described in last year's report. This has been installed in a floor case of standard type, $7\frac{1}{2} \times 4\frac{1}{2}$ feet in size, in which it makes an effective and attractive exhibit. The other large mount installed is a skeleton of a Cave Bear from Triest, Austria, which has been placed in a temporary case. The skeleton is remarkable for its large size and completeness. In connection with the installation of these mounts some rearrangement of the other cases was made. There were also added to the exhibition series of fossil vertebrates a skull of *Aceratherium* and one of *Ancodon*, complete skeletal fore and hind legs of the fossil camel *Oxydactylus* and a skeletal hind leg of *Alticamelus*. The two large fossil logs from Patagonia, collected by Professor Salisbury, have been installed in this Hall. One of these logs is eight feet in height and two feet in diameter and the other is nearly as large. The structure of the wood is beautifully preserved and the evidences of former tree growth are so unmistakable as to make them impressive specimens. The large slab of *Uintacrinus*, which has for some time been exhibited in this Hall, was found to be undergoing considerable disintegration owing to imperfect adherence of the slab to the plaster backing. It was therefore taken down, the thin exhibition surface removed and carefully scraped and readjusted. This was then remounted on a firm plaster bed. By this means a permanent adherence of the slab to the plaster has been obtained and a durable and attractive mounting achieved. In Hall 32 the large specimen of *Orthoceras* from Troygrove, Illinois, and a number of smaller specimens were installed and some minor rearrangements made. In Hall 35 a series of models showing the diamonds cut from the Cullinan diamond has been placed in connection with the model of that diamond. In the same Hall a large number of mineral specimens have been added to the series on exhibition, less important specimens having been removed wherever necessary to provide room. The series added includes a number of new species or occurrences that have been acquired in recent years, so that all important mineral specimens may now be considered to be on exhibition. In Hall 31 the series of lavas and volcanic products has been thoroughly rearranged in geographical groups and a number of specimens added. The additions include the series of specimens from the Japanese volcano of Sakurajima. The series of concretions, faults, and veins in this collection was also rearranged and some additions made. Some marcasite stalactites which had begun to

specimens of gold in quartz and flake gold for comparative purposes and selected specimens of fool's gold or pyrite, copper pyrite, native copper in slate, and two specimens of mica, one of which is mixed with sand and one is pure. To the collection of building stones exhibited, 27 cubes and slabs have been added. A large specimen of fire clay from Missouri, received in 1912, has been installed in a case in this Hall, space being obtained by moving some less important specimens. Some of the less important pigments have been removed from their place of exhibit in Hall 33 and in their place has been installed the collection of coal tar products presented by the Barrett Manufacturing Company. The production of dyes, etc., from these substances make them of especial interest at the present time. Some additions have been made to the coal mine model in order to make some of its features more readily appreciable. Some of the underground portion has been cut away in order to show the position of the ventilating shaft and its connection with the hoisting shaft. This makes more evident the course of the ventilating system. In order to make the exhibit of washed iron ores, more instructive a small model of a log washer was constructed by the Assistant Curator and installed in connection with that exhibit. The model shows a trough containing a log bearing a series of fins arranged in a screw-like manner; a hopper and track on which the unwashed ores are brought to the washer; an engine house containing the engine for providing power for operating the washer; and a car for removing the washed ore. A scale of one-third of an inch to the foot was carefully adhered to in constructing the model, such a size having been adopted in order that the model might not overbalance the collection. The model is chiefly intended to assist the label in making the collection more instructive. The usefulness of such models has been very favorably commented on by visitors, on account of the ease with which the details of the models can be studied as compared with the noise, confusion, and complexity encountered in visits to large working plants. Some improvements have been made in the installation of the collection of petroleum shown in Alcove 107, chief among them being replacement of the large two-gallon bottles of petroleum products by smaller bottles, which are uniform in pattern with those in which the crude petroleum are installed. The appearance of the collection has thus been much improved. The installation of the other petroleum products has likewise been somewhat revised and improved. The series showing asphalts and their uses received from the Barber Asphalt Company, with two large photographs of Trinidad Lake, has been installed in Hall 35. Several new specimens of graphite have also been added to the graphite collection in this Hall. The specimens illustrating lithology and



EMBROIDERED SATIN PANELS, CHINA, EIGHTEENTH CENTURY.
Gift of Dr. Gunsaulus.

structural and dynamical geology, which occupy the drawers under the lithological exhibits, have been completely reinstalled; all specimens have been placed in trays in a logical order and labeled, the drawers have been numbered, and indexes have been prepared so that any specimen wanted can be found at once and can be shown to anyone desiring to study it. Material was prepared for several new cases for the work of the Harris Fund, in addition to a number of duplicates of those previously prepared. The new subjects illustrated include semi-precious stones, varieties of common rock, volcanic products, and coal-tar products. In the laboratory of vertebrate paleontology the preparation of vertebrate fossils has been actively continued and a considerable amount of material has been prepared. A skeleton of the sabre-tooth tiger was prepared for mounting; completion of the preparation and mounting of the slab containing 25 skeletons of the Water Deer, *Leptomeryx*, described in last year's report, was accomplished; the large slab of *Uintacrinus* was taken apart and entirely remounted; a skeleton of the Cave Bear was repaired and remounted; a nearly complete skeleton of the fossil camel *Oxydactylus* and a skull of *Elotherium* were prepared for exchange; a partial skeleton of *Oxydactylus* and skulls of *Aceratherium* and *Ancodon* were prepared for exhibition; a large specimen of *Orthoceras* was cleaned of plaster and a durable mount provided; the skeleton of the Washington mammoth presented by Mr. George Manierre was disarticulated and carefully packed in boxes so as to provide safety in storage; a set of jaws of the large shark *Charcharodon* was cast in plaster and mounted for the purpose of replacing the former exhibit of this kind which was somewhat defective as to detail; some progress was made in mounting a skeleton of *Canis diurus*, and the entire collection of teeth of mammoths and mastodons, some of which were undergoing disintegration, was carefully treated in such a manner as to insure its preservation.

In the Department of Zoölogy a large habitat group of American Bison or Buffalo, consisting of five animals, a large old bull, a young bull, two females, and a calf, has been added to the exhibition collection. The scene is laid in Nebraska. Burrowing Owls, Prairie Dogs, and Rattlesnakes, which are common in that prairie country, are included in the group. The following single mammals have been installed and placed on exhibition in the serial collection: Chinese Takin (*Budorcas bedfordi*), a rare large mammal; Kansu Deer (*Cervus kansuensis*); Spectacled Bear (*Tremarctos ornatus*), a rare species from the Andes of Peru secured by Museum expedition, as was also the White-lipped Peccary (*Tayassu pecari*); Drill (*Papio leucocephalus*); White-tailed Mongoose (*Ichneumia albicauda*), and Porcupine (*Erethizon dorsatum*).

show signs of disintegration, were thoroughly treated with shellac and further decay checked. In connection with the rearrangement of the structural collections in this Hall, that of the study collection was carried on and considerable interchange of specimens made. About one-quarter of the entire exhibit, which occupies fifteen cases, was completely reinstalled in order to bring the series to a satisfactory condition. To the economic collections in Hall 34 a large number of specimens has been added and a considerable amount of reinstallation performed. In several of the cases the exhibits were entirely removed in order to allow painting of the interiors. These interiors are now all a uniform black. New series installed in this Hall include a number of rare earths; a series illustrating the manufacture of tungsten wire; a series of minerals resembling gold; several series illustrating the uses of cobalt, nickel, zinc, and tin; a number of additions to the building stone collection, including several marble slabs; and a model of a log washer for iron ores. The large specimens of ores in this Hall, which had hitherto rested directly on the floors of the cases and the finish of which they injured on account of their weight and jagged surfaces, have been provided with individual wooden supports placed so as not to be visible. Further injury to the cases has thus been averted. Additions to the collections illustrating the uses of cobalt, zinc, and nickel compounds have been prepared in the Museum work-rooms and placed on exhibition. These include the pigments which have these metals for base. They are shown as varnished coatings on blocks of wood four inches square. Beside each block is placed a tube of the pigment in oil partly emptied into a small watch glass, in order to show its color in quantity. Besides the zinc pigments there have been added to the collection illustrating uses of zinc, a dry cell with the zinc exposed to illustrate electrical uses of zinc; a zinc etching block and a print from it; a jar of zinc ointment, and powdered willemite used as a fluorescent screen in X-ray and radioactive work. A beginning has been made of a collection to illustrate uses of the rare earths and others of the less familiar elements. A Nernst lamp illustrates uses of zirconia, and a Welsbach mantle shows an important application of thorium and ceria that has made monazite valuable. A series of specimens shows all stages of the evolution of the filament of the tungsten electric light from the mineral scheelite to the wire ready to place in the lamp. One of the most interesting uses of titanium is shown in an example of the yellow enamel used by dentists. In order to obtain space for these additions, a collection of exhibited antimony ores was reduced. There has been added to the gold series a group of specimens illustrating the appearance of those minerals which are most frequently mistaken for gold. The series consists of two

Painted backgrounds for a large group of Moose and a group of South American Capybara, including a Jaguar, have been prepared, and considerable work on the accessories for both these groups has already been done. The mounting of the specimens for the Moose group, very fine specimens secured by a Museum expedition last fall, is progressing in a satisfactory manner. A new method for making artificial bodies (manikins) for small mammals was introduced by Taxidermist Pray, which seems a decided improvement over the old way. A striking group of East African Buffalo, created by Carl E. Akeley, was installed in the South Court late in the year. This group, which includes two old bulls, one young bull, a cow, and a calf, is an impressive example of the possibilities of modern taxidermy. The five bulky animals are so skilfully and naturally grouped that the effect of space and power is not lost even in the confinement of a case of moderate size. In addition to simplicity and fidelity to nature both in grouping and in modeling, the individual animals of this group have an unusual quality produced by a new and superior technique in the treatment of the skin. The principal feature of this method consists in applying the tanned skin to the model in a dry instead of moistened condition. The result in the finished specimen, especially in the case of thinly haired animals, is much more lifelike than that of other methods, the skin appearing soft and natural instead of hard and unyielding. In the exhibition of comparative osteology 445 skulls were cleaned, and the following skeletons mounted and installed: Gila Monster (*Heloderma horridum*); Box Turtle (*Cistudo carolina*); Jacana (*Jacana spinosa*); Pigeon (*Columba livia*), and Cave Bat (*Eonycteris spelæa*). A large habitat group of birds representing bird life in the far north on Walrus Island, Alaska, has been completed and placed on exhibition. This group includes 51 birds with nests, eggs, and several nestlings; some of them, notably the Red-faced Cormorant, are rare and are becoming more so each year. Among the most interesting birds in this group may be mentioned, in addition to the Red-faced Cormorants, the Tufted Puffins, Horned Puffins, Paroquet Auklets, and various species of Gulls (among them the Red-legged Kittiwake Gull), Murres, etc. An instructive feature of the group is in showing the Glaucous and Glaucous-winged Gulls stealing and eating the eggs of the Pallas Murres, which breed in great numbers on this barren, isolated island. For the serial collection there were mounted: 1 Coot (*Fulica americana*); 1 Red-shouldered Hawk (*Buteo lineatus*); 2 Kittlitz Murrelets (*Brachyramphus brevirostris*), and 1 Harlequin Duck (*Histrionicus histrionicus*). A number of bird skins from fresh specimens sent in for the study collection, including the Snowy Owl, were prepared. A number of fishes and

crustaceans have been painted for the exhibition collection. One exhibition case of mounted fishes from California was installed, and 88 fishes, 79 from Florida and California and 9 from Alaska, have been mounted and painted. Included are many handsome species, among them being a number of Salmon and Trout from California. A considerable number of specimens of various insects, moths, butterflies, beetles, etc., have been pinned and prepared. Early in the year 16 A-shaped cases were delivered for installing the exhibition collection of shells and insects to replace the flat cases at present in use. The Assistant Curator of Entomology devoted considerable time to rearranging shells for the new method of installation. Upon the return of Collector Becker from South America he was added to the staff of assistants in this Department and devoted his time to this work.

THE N. W. HARRIS PUBLIC SCHOOL EXTENSION OF FIELD MUSEUM OF NATURAL HISTORY.
—The Curator reports that the practical inauguration of Mr. Harris' benefaction has been attended with success. The cases prepared during the year number 207, making, with the cases previously installed, a grand total of 286. The pupils in the public schools examining these collections during the year numbered 368,044. The schools provided with cases were 326, divided as follows: Main Schools 266, Branch Schools 39 and Vacation Schools 21. Each Main School was provided with not less than 6, each Branch School with not less than 3, and each Vacation School with not less than 12 cases at a time. The automobile delivery car designed for the distribution of the circulating collections was delivered during the year and has proved satisfactory. It has a capacity of 45 cases and travels each day of the school week approximately 80 to 100 miles. Thirty-four of the cases will be exhibited at the Panama Pacific International Exposition, San Francisco, during the coming year.

PHOTOGRAPHY AND ILLUSTRATION.—The reduction in the force of this section naturally affected the output for the year. Still the showing made is satisfactory. The following is a statement of the work performed:

	Number of Negatives made	Number of Prints made	Number of Lantern Slides made	Number of Enlargements made	Number of Negatives developed for Expeditions	Number of 6½x8½ Posi- tives made. Used in mak- ing large Negatives
Director's Office	89	131	..	..	..	..
Anthropology	204	1,049	28	..	..	..
Botany	35	160	35	20	..	20
Geology	27	30	..	..	..	..
Zoology	23	297	..	..	..	..
Harris Extension	45	213	..	..	33	..
Distribution . . . . .	..	86	..	..	..	..
Gift . . . . .	..	190	..	..	..	..
Sale . . . . .	..	884	..	..	..	..
Totals	423	3,040	63	20	33	20
Total number of Catalogue entries during year 1914						3,599
Total number of Catalogue entries to December 31, 1914						110,827
Total number of Record Books						15

PRINTING.—The force in this Section was also reduced, but the printers were able to keep pace with the copy submitted for labels. The work performed is tabulated below:

	Exhibition Labels	Other Impressions
Anthropology	2,660	550
Botany	2,417	25,200
Geology	1,588	1,000
Zoology	88	.....
Library . . . . .	.....	5,000
General . . . . .	.....	30,831
N. W. Harris Public School Extension	7,803	2,120

ATTENDANCE.—The total attendance record for the year is 208,769. Appended is a list of the classes, thirty or more, that visited the Museum during the term under review.

LIST OF CLASSES

Schools and Locations	Teachers	Pupils
University of Chicago — Chicago, Illinois		23
University of Chicago — Chicago, Illinois	2	28
Northwestern Military Academy — Evanston, Illinois	4	92
University Elementary — Fifty-ninth and Kenwood Avenue		22
John Marshall High — Adams Street between Spaulding and Kedzie Avenue	1	34
Lake Forest — Lake Forest, Illinois	4	79
St. Ignatius — 1076 West Twelfth Street	1	50
University High — Fifty-ninth and Kenwood Avenue	1	34



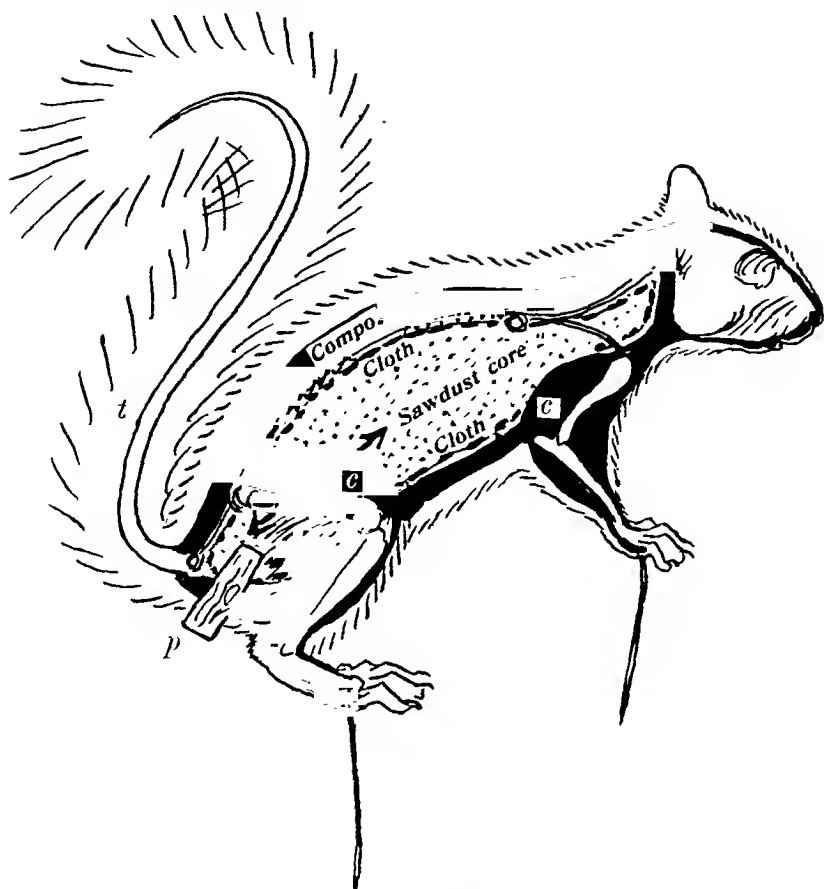
CHINESE TAKIN (*Budarcus bedfordi*).
Julius Priesner, Taxidermist.

Schools and Locations		Teachers	Pupils
Francis W. Parker — 330 Webster Avenue		4	24
University of Chicago — Chicago, Illinois		1	20
Evanston — Evanston, Illinois		2	22
John Marshall High — Adams Street between Spaulding and Kedzie Avenue		1	28
Hyde Park High — Sixty-second and Stony Island Avenue . . .		1	25
Broad View Seminary — La Grange, Illinois		2	35
University of Chicago — Chicago, Illinois		1	25
University of Chicago — Chicago, Illinois		1	21
Winnetka — Winnetka, Illinois		3	30
Francis W. Parker — 330 Webster Avenue		1	20
John Marshall High — Adams Street between Spaulding and Kedzie Avenue		1	41
Froebel — West Twenty-first and Robey Street		2	28
University of Chicago — Chicago, Illinois			21
Willard — Forty-ninth and St. Lawrence Avenue		1	46
Chicago Academy of Fine Arts — 6 East Madison Street . . .		1	45
Hyde Park High — Sixty-second and Stony Island Avenue . . .		1	160
Washington — Morgan and Grand Avenue		2	40
Madison — Seventy-fifth and Dorchester Avenue		2	84
Willard — Forty-ninth and St. Lawrence Avenue		1	27
St. Patricks — 2303 Park Avenue		2	44
St. Elizabeths High — 13 East Forty-first Street		2	50
Hyde Park High — Sixty-second and Stony Island Avenue . . .		1	54
University of Chicago — Chicago, Illinois			25
Englewood High — Sixty-second and Stewart Avenue		1	90
Hyde Park High — Sixty-second and Stony Island Avenue . . .		2	50
Concordia Teachers College — River Forest, Illinois		1	45
East Chicago High — East Chicago, Illinois		3	34
Gallistel — One-hundred and Fourth and Ewing Avenue . . .		1	50
Hyde Park High — Sixty-second and Stony Island Avenue . . .		1	23
Englewood High — Sixty-second and Stewart Avenue		1	20
St. Benedicts Rectory — 294 York Street, Blue Island, Illinois .		5	60
MacGregor — Whiting, Indiana		3	73
Hyde Park High — Sixty-second and Stony Island Avenue . . .		1	32
Sherlock — Cicero, Illinois		1	52
Greek American — Sixty-first and Michigan Avenue		4	40
Blue Island — Blue Island, Illinois		7	33
River Forest — River Forest, Illinois		1	21
Beale — Sixty-first and Sangamon Street		1	23
Bethany Bible Institute — 3435 West Van Buren Street			24
Warren — Ninety-second and Chappel Avenue		1	38
Notre Dame University — South Bend, Indiana		1	25
Walsh — Twentieth and South Peoria Street		4	40
Wells — North Ashland near Augusta Street		2	38
Pullman — One hundred and Thirteenth and Forestville Avenue .		1	38
Willard — Forty-ninth and St. Lawrence Avenue		2	34
Thorp — Eighty-ninth and Superior Avenue		1	35
Raymond — Thirty-sixth Place and Wabash Avenue		1	30
Darwin — Edgewood Avenue and Catalpa Court		1	25

Schools and Locations	Teachers	Pupils
Willard — Forty-ninth and St. Lawrence Avenue	1	35
University of Chicago — Chicago, Illinois	1	60
Parkside — Seventieth and East End Avenue	1	32
Thorp — Eighty-ninth and Superior Avenue	1	40
Komensky — Twentieth and Throop Street	1	29
Harper — Sixty-fifth and South Wood Street	1	34
Blaine — Janssen Avenue and Grace Street	1	22
Grant — Wilcox Street and Western Avenue	1	32
Blaine — Janssen Avenue and Grace Street		20
Normal — Sixty-eighth and Stewart Avenue	50	
Chicago Hebrew Institute — West Taylor, corner of Lytle	2	32
Longfellow Vacation — Thirty-fifth and South Pulaski Avenue . .	13	241
Gladstone Vacation — Robey Street and Washburne Avenue . . .	24	603
Olivet Institute — 709 Vedder Street	10	224
Jewish Training — 199 West Twelfth Street	9	90
Agassiz — Diversey Boulevard and Seminary Avenue	17	280
De Paul University — 1010 Webster Avenue	1	30
Summit — Summit, Illinois	1	30
Evangelic Lutheran Concordia — Sheffield, corner of Waveland Avenue	1	44
Wendell Phillips High — Thirty-ninth and Prairie Avenue		33
Convent of the Holy Child — 6585 Sheridan Road	1	28
Washington — Morgan and Grand Avenue	1	58
Carter Practice — Sixty-first and Wabash Avenue	2	51
Francis W. Parker — 330 Webster Avenue	1	32
Goodrich — Sangamon and Taylor Street		21
Chicago Latin — 20 East Division Street	1	21
University High — Fifty-ninth and Kenwood Avenue	1	21
McCosh — Sixty-fifth and Champlain Avenue		43
J. Sterling Morton High — Sterling, Illinois	1	30
Ray — Fifty-seventh and Kenwood Avenue	2	48

Herewith are also submitted financial statements, list of accessions, names of members, etc., etc.

FREDERICK J. V. SKIFF, Director.



BUILT-IN HOLLOW MANIKIN METHOD FOR MOUNTING SMALL MAMMALS.

The initial step is to wire the specimen as though the ordinary method of mounting were to be followed. The inside of the skin is then given a coating of poison paste and immediately afterwards the composition is put in and modelled. The most satisfactory composition used so far is one made of library paste, water, and a pinch of arsenic, to which is added whiting and sufficient chopped tow to make the mixture of the proper consistency for modelling but nevertheless sticky. The cavity in the manikin is then lined with cloth and filled with sawdust, which, when the specimen is dry, is removed by means of the plug (p) inserted in the end of the body, or in the side, if the animal is to be in a recumbent position. Depressions in the anatomy are maintained by the use of insect pins, which are cut off flush when the skin has adhered properly to the manikin. The legs of very small mammals may be filled wholly with composition, as is shown in the figure (c), but the legs of larger mammals should have a wrapped core. The tail wire (t) is merely wrapped with cotton to secure the required thickness. The advantage of this hollow manikin method is that the mounted specimen is light, very durable and almost indestructible. (Originated and used by Leon L. Pray.)

FINANCIAL STATEMENT

RECEIPTS AND DISBURSEMENTS

January 1, 1914, to December 31, 1914

RECEIPTS

Cash in Treasurer's hands, General Fund, December 31, 1913 . . .	\$11,690.37
Cash in Treasurer's hands, Endowment Sinking Fund, December 31, 1913	180.00
Cash in Treasurer's hands, New Exhibition Cases Fund, December 31, 1913	930.75
Petty Cash on hand, December 31, 1913	739.95
Dues of Life Members	500.00
Dues of Annual Members	1,090.00
Admissions and Check Rooms	5,526.50
Sales of Guides	158.75
South Park Commissioners	15,000.00
Interest on Investments and Bank Balances	9,609.62
Field Endowment Income	136,500.00
Field Endowment Sinking Fund	500.00
Field Endowment Sinking Fund Income	160.00
New Exhibition Cases Fund	3,500.00
New Exhibition Cases Fund Investments retired	53,713.67
New Exhibition Cases Fund Income	1,913.09
Stanley Field Ornithology Fund	1,200.00
Mrs. T. B. Blackstone Fund	900.00
Huntington W. Jackson Library Fund	40.00
Donations — George Manierre	500.00
Life Memberships Fund Income	292.45
Life Memberships Fund Investments retired	4,500.00
Sales of Picture Postal Cards	433.34
Sundry Receipts	72.02
	<u>\$249,650.51</u>

DISBURSEMENTS

Salaries	\$73,489.35
Guard Service	12,208.03
Janitor Service	7,121.35
Fire Protection	6,124.50
Heat and Light:	
Wages	\$4,102.00
Fuel	6,967.78
Gas	459.04
Renewals, supplies, and sundries	<u>906.71</u>
	12,435.53

Repairs and Alterations —

Wages — Carpenters, Painters, Roofers, etc.	\$8,717.49	
Materials used — lumber, paints, oils, glass, etc.	1,705.53	10,423.02

Furniture and Fixtures — Cases		29,067.24
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The Library —

Books and Periodicals	\$1,472.73	
Binding	532.48	
Sundries	29.53	2,034.74

Sections of Printing and Photography		4,283.15
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Collections, etc., purchased		27,287.44
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Departmental Expenses		2,940.91
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Expeditions		584.19
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Publications		2,815.99
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General Expense Account —

Freight, Expressage, and Teaming	\$1,925.73	
Stationery, Postage, Telephone, etc.	836.73	
Picture Postal Cards	518.00	
Liability Insurance Premium	697.56	
Sundries	1,408.81	5,386.83

Stanley Field Ornithology Fund		1,457.25
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Mrs. T. B. Blackstone Fund		936.00
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In Treasurer's hands, December 31, 1914 —

General Fund	\$10,828.95	
New Exhibition Cases Fund	3,490.27	
Endowment Sinking Fund	525.00	
Picture Postal Card Account	433.34	15,277.56

Petty Cash on hand, December 31, 1914		739.95
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Life Memberships Fund Investments		6,746.69
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Huntington W. Jackson Library Fund Investments		475.79
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Endowment Sinking Fund Investments		315.00
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New Exhibition Cases Fund Investments		27,500.00
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\$249,650.51

ATTENDANCE AND RECEIPTS FROM JANUARY 1 TO DECEMBER 31, 1914

ATTENDANCE.

Paid Attendance —		
Adults	19,101	
Children	2,098	21,199
Free Admission on Pay Days —		
School Children	4,653	
Students	3,398	
Teachers	516	
Members: Corporate	43	
Annual	19	
Life	6	
Officers' Families	76	
Special	268	
Press	23	9,002
Admissions on Free Days —		
Saturdays	50,816	
Sundays	127,752	178,568
Total Attendance		208,769
Highest Attendance on any one day (July 5, 1914)		6,738
Highest Paid Attendance on any one day (September 7, 1914)		569
Average Daily Admissions (363 days)		575
Average paid Attendance (261 days)		81

RECEIPTS.

Guides Sold — 635 at 25 cents each	\$ 158.75
Articles Checked — 10,829 at 5 cents each	541.45
Admissions	4,985.05
	<hr/>
	\$5,685.25

ACCESSIONS

DEPARTMENT OF ANTHROPOLOGY.

(ACCESSIONS ARE BY GIFT UNLESS OTHERWISE DESIGNATED.)

AYER, E. E., Chicago, Illinois.

Large bronze Etruscan vessel.

Small variegated glass bottle, neck and shoulders being restored in plaster—Egypt.

Beautiful statuette, female, of diorite (exchange).

BARKER, MRS. FRANK W., Chicago, Illinois.

1 fragmentary Roman tile.

7 Asiatic stone weights.

2 Greek vases (an original and a copy).

1 Egyptian Ushabti figure.

1 Fan—India.

1 Fancy Fan.

1 N. W. Coast horn spoon.

6 N. W. Coast gambling sticks.

8 specimens Hawaiian ethnology.

BLACKSTONE, MRS. T. B., Chicago, Illinois.

1 Japanese gold coin.

1 Japanese silver coin.

690 Chinese coins—Wei-hien, Shantung, China.

DEVLIN, MRS. FRANK A., Chicago, Illinois.

3 carved cups, made from a pod—Costa Rica.

2 small clay vessels, prehistoric—Costa Rica.

DORSEY, GEO. A., Chicago, Illinois.

3 Chinese printing-blocks from Examination Hall at Nanking, Nanking, China.

ELLIS, RICHARD GORDON, Chicago, Illinois.

Rawhide lariat.

Wooden bow with skin case.

Stone celt.

Stone disc.

FIELD MUSEUM OF NATURAL HISTORY.

Collected by Chas. L. Owen:

3 two-faced Navajo blankets.

1 two-faced Navajo blanket, in the weaving.

1 ball coarse white yarn.

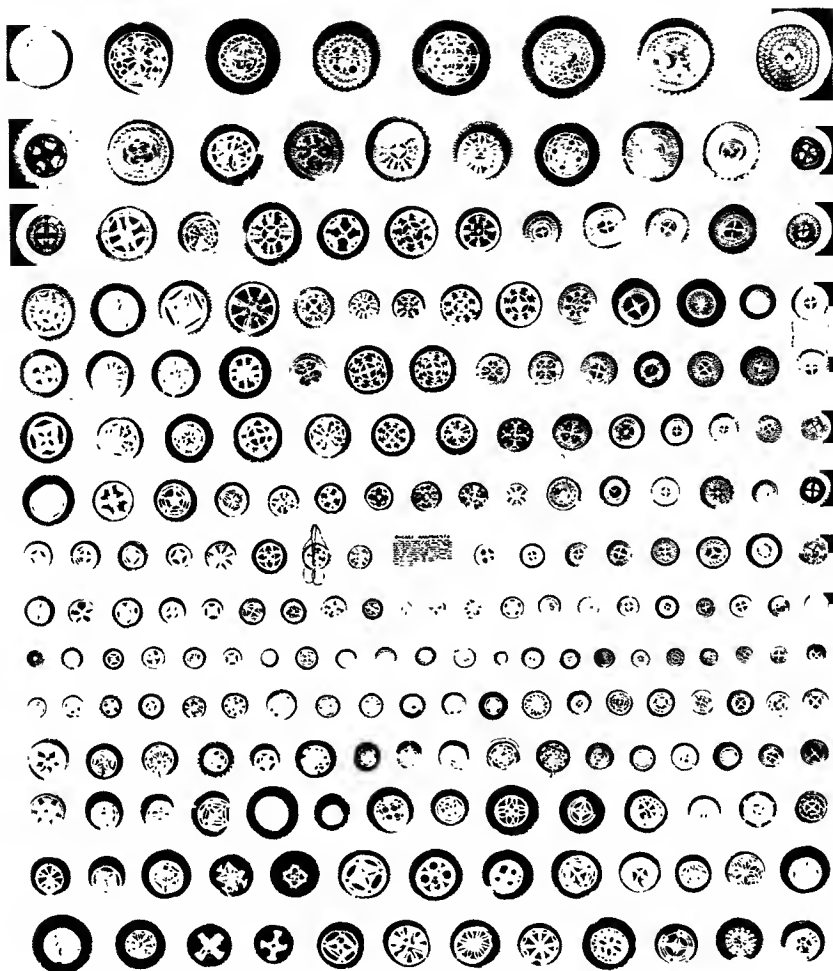
1 ball coarse black yarn.

1 plaited wool rope.

1 batten.

1 reed fork.

1 shuttle—N. E. Arizona.



BREAST ORNAMENTS OF SHELL AND TORTOISE SHELL, ADMIRALTY ISLANDS.
The Joseph N. Field Expedition.

Purchases:

- 2 nephrite tablets from imperial jade book inscribed in Manchu, China.
 - 1 wood-carved seal.
 - 1 grant written on yellow satin and bestowed by Emperor K'ang-hi on
Lama Temple near Taochow, Taochow, Kansu Prov., China.
 - 20 tear bottles from Egypt.
 - 2 Italian bronze vessels of Greek style, Rome.
- FOWLER, E. H., Chicago, Illinois.
Large flaked implement, shells, fragments of pottery, rejects from cave,
and five stone objects—Pinal Co., Arizona.
- FRIESSER, J., Chicago, Illinois.
1 Buffalo skull—Fort Pierre, South Dakota.
- GUNSAULUS, DR. F. W., Chicago, Illinois.
2 silk embroidered hangings from Imperial Palace of Peking, Peking.
2 Japanese water colors framed under glass—Japan.
- KALDENBERG, F. W., New York City.
1 Rhinoceros horn.
- LOWE, DR. W. S., Phoenix, Arizona.
6 sections of ceremonial cane stem.
3 same as preceding, with the addition of a small rectangular cotton fabric
tied around the joint—Camelback Mts., Arizona.
- MASON, THOMAS, Chicago, Illinois.
1 Chinese mariner's compass, in case of polished copper—Hankow, China.
- MOORE, C. B., Philadelphia, Pennsylvania.
Archeological specimens.
- ROBERTS, GEORGE C., Sharon Hill, Pennsylvania.
50 arrow-heads.
2 stone axes.
- SARGENT, HOMER E., Chicago, Illinois.
Mexican gold ring—Mexico.
- SCHROTT, FRED, Salt Lake City, Utah.
Flaked knife blade of chert—Caliente, Nevada.
- TAYLOR, DR. JOHN R., Madison, Wisconsin.
3 Chinese paintings representing a match of polo—China.
2 painted albums—Peking, China.
- WARDEN, CLEAVER, Carlton, Oklahoma.
Peyote Outfit—Oklahoma.

DEPARTMENT OF BOTANY.

(ACCESSIONS ARE BY GIFT UNLESS OTHERWISE DESIGNATED.)

- ARTHUR, PROF. J. C., Lafayette, Indiana.
Herbarium specimens.
- BAMBER, C. A., St. Cloud, Florida.
1 bundle Palmetto sheaths—St. Cloud, Florida.
- BUREAU OF PLANT INDUSTRY, Washington, D. C.
Herbarium material, 200 Grasses (exchange).
Specimens of Crude Drugs (exchange).
- CARSON, DR. H. R., Phoenix, Arizona.
Herbarium specimen—Arizona.

COKER, W. C., Chapel Hill, North Carolina.

Herbarium specimen—South Carolina.

COOS BAY PULP & PAPER COMPANY, Marshfield, Oregon.

Compound Pulp for paper manufacture—Marshfield, Oregon.

COVILLE, DR. FREDERICK V., Washington, D. C.

Photograph of the original description of *Euphorbia adenoptera*.

COWLES, PROF. H. C., Chicago, Illinois.

1241 herbarium specimens.

Herbarium specimens—Indiana and Greenhouse.

CURTISS, MISS E., Chicago, Illinois.

Private herbarium of George F. Curtiss.

DAHLGREN, DR. B. E., Chicago, Illinois.

Herbarium specimens—Colorado.

DAY, MISS MARY F., Cambridge, Massachusetts.

Generic descriptions—Cambridge, Massachusetts.

DEUSNER, C. W., Chicago, Illinois.

His herbarium—Illinois and Indiana.

FIELD MUSEUM OF NATURAL HISTORY.

Collated by O. E. Lansing, Jr.:

1 plant description.

Collated by C. F. Millspaugh:

337 herbarium specimens.

31 illustrations of species.

Wood of Oregon Maple.

Wood plates Sugar Maple.

1 specimen fruit.

1 specimen wood.

3 parts herbarium specimens—New Mexico.

Collated by H. H. Smith:

3 board specimens—Philippines.

Collected by B. E. Dahlgren:

Dry fruit *Pandanus*—Jamaica.

Collected by O. E. Lansing, Jr.:

229 herbarium specimens—Starved Rock State Park, Illinois and Indiana.

Collected by H. H. Smith:

14 herbarium specimens—Indiana.

147 economic specimens—Indiana.

Purchases:

424 herbarium specimens—Nevada and California, Texas and New Mexico

Various fibers and their utilizations—Philippine Islands.

200 herbarium specimens.

Herbarium specimens.

863 herbarium specimens.

1414 herbarium specimens — Mexico.

2 herbarium specimens — Bolivia.

56 herbarium specimens — Tobago.

Cocaine.

Rose petal rosary and components — California.

Section of Modeling:

7 glass reproductions of *Desmidae*.

- Green Algae and Desmids.
- Branch of Horsechestnut.
- Flowers of Horsechestnut.
- Fruits of Horsechestnut.
- Chocolate pod.
- Chocolate cake.
- Reproduction of fruit of *Pandanus utilisissimus*.
- Sectional fruits of *Connarus* — Java.
- FOREST ECONOMIST, Dahra Dun, India.
 - 9 economic forest products — India.
 - 19 vegetable products — India.
- FORBES, F. F., Brookline, Massachusetts.
 - 23 herbarium specimens.
- GARCIA, DR. CRESCENCIO, Tigulpan, Mexico.
 - Coca leaves — Mexico.
- GAULT, BENJ. T., Glen Ellyn, Illinois.
 - Trunk section.
 - Board specimen.
 - Photographic prints all of *Crataegus Gaultii* Sarg. — Illinois.
- GRAY HERBARIUM, Cambridge, Massachusetts.
 - Description of *Euphorbia adenoptera*.
- GREENE, PROF. E. L., Washington, D. C.
 - 2 herbarium specimens.
- HAMILTON MANUFACTURING COMPANY, Two Rivers, Wisconsin.
 - Maple wood type — Wisconsin.
- HELLER, A. A., Chicago, Illinois.
 - 5 herbarium specimens.
- HOLZINGER, JOHN M., Winona, Minnesota.
 - 1 herbarium specimen — Coronation Island, Alaska.
- KROUT, DR. A. F., Glenolden, Pennsylvania.
 - 4 herbarium specimens — Pennsylvania.
- LAUFER BERTHOLD, Chicago, Illinois.
 - Derge paper-root and paper. Tibetan Tea.
 - Tibetan medicines — Tibet.
 - Tibetan Brick Tea — Tibet.
- MILLSPAUGH, MRS. CLARA MITCHELL, Chicago, Illinois.
 - Cherry tree gum — Lake Side, Michigan.
- MILLSPAUGH, C. F., Chicago, Illinois.
 - Fruits of *Asclepias syriaca*.
 - Fruits of *Calotropis gigantea* — Jamaica and Illinois.
 - 192 colored illustrations of Mushrooms — Austria.
 - Bundle Scouring rushes — Lake Side, Michigan.
 - 65 herbarium specimens — Michigan.
 - 3 herbarium specimens — District Columbia.
- MISSOURI BOTANICAL GARDEN, St. Louis, Missouri.
 - 316 herbarium specimens — Austro-Hungary.
 - 2 photographs of a type (exchange).
- NATAL HERBARIUM, Berea, Durban, Union of South Africa.
 - 101 herbarium specimens — South Africa.

NEW YORK BOTANICAL GARDEN, New York City.

2 herbarium specimens — Jamaica (exchange).

649 herbarium specimens (exchange).

Specimen of *Pedilanthus Smallii* Millsp. (exchange).

10 herbarium specimens (exchange).

220 herbarium specimens — West Indies (exchange).

2 herbarium specimens — Big Pine Key, Florida (exchange).

1 herbarium specimen — Mexico (exchange).

PADILLA, DR. SISTO ALBERTO, Salvador.

1 herbarium specimen — Salvador.

PARISH, S. B., San Bernardino, California.

6 herbarium specimens — California.

REECHER, S. E., Chester, Illinois.

8 herbarium specimens — Illinois.

REYNOLDS, MISS CARRIE A., Chicago, Illinois.

Herbarium specimens — Illinois, Yellowstone, San Juan Island.

SAFFORD, LIEUT. W. E., Washington, D. C.

Dried petals of *Cymbopetalum penduliflorum* — Guatemala.

SHERFF, EARL E., Chicago, Illinois.

1 herbarium specimen — France.

SMITH, HURON H., Chicago, Illinois.

160 herbarium specimens — Illinois and Wisconsin.

UNITED STATES FOREST PRODUCTS LABORATORY, Madison, Wisconsin.

44 specimens of Wood Pulp for paper making (exchange).

UNITED STATES NATIONAL MUSEUM, Washington, D. C.

6 photographs of types (exchange).

UNIVERSITY OF PENNSYLVANIA, Herbarium, Philadelphia, Pennsylvania.

56 herbarium specimens (exchange).

URBAN, PROF. DR. IGNATZ, Daglem-Steglitz.

Part of type herbarium specimen — Cuba.

WAITE GRASS CARPET COMPANY, Oshkosh, Wisconsin.

5 specimens illustrating the manufacture of grass carpet — Wisconsin.

WILLEY, C. L. COMPANY, Chicago, Illinois.

Board and veneer of Gaboon Mahogany — Gaboon, Africa.

WOLCOTT, A. B., Chicago, Illinois.

1 herbarium specimen — Illinois.

DEPARTMENT OF GEOLOGY.

(ACCESSIONS ARE BY GIFT UNLESS OTHERWISE DESIGNATED.)

AMERICAN VANADIUM COMPANY, Pittsburgh, Pennsylvania.

3 specimens vanadium ores — Minasrarga, Peru.

BARBER ASPHALT PAVING COMPANY, Philadelphia, Pennsylvania.

46 specimens asphalt and asphalt products.

2 large photographs of Trinidad Pitch Lake — Trinidad and Venezuela.

BARKER, MRS. F. W., Chicago, Illinois.

1 specimen travertine.

1 specimen tourmaline.

BARRETT MANUFACTURING COMPANY, Chicago, Illinois.

11 specimens coal tar and products.



FOSSIL SKELETON OF CAVE BEAR (*Ursus spelaeus*) FROM TRIEST, AUSTRIA.

BURNHAM, AUSTIN A., Cleveland, Ohio.

- 1 specimen fossil fish (*Palaeoniscus brainerdi*) in matrix — Chagrin Falls, Ohio.

BLACKWELL, JOHN T., Chicago, Illinois.

- 12 specimens agate, jasper, opal, etc., — Trinity County, California.

BOSS GOLD MINING COMPANY, Goodsprings, Nevada.

- 2 specimens platinum and gold ore — Goodsprings, Nevada.

BOYDEN, DWIGHT B., Chicago, Illinois.

- 20 specimens bonanza silver ores.
- 1 specimen native copper — Mexico and Arizona.

BROCKWAY, WM., Tlatlaya, Est. de Mexico, Mexico.

- 16 specimens gold ores and associated minerals — Tlatlaya, Mexico.

CHICAGO VARNISH COMPANY, Chicago, Illinois.

- Block varnished with elaterite varnish.

CLEVELAND STONE COMPANY, Cleveland, Ohio.

- 1 dressed specimen of Gray Canyon sandstone — Cleveland, Ohio.

MICHAEL COHEN & COMPANY, New York City.

- 1 four-inch cube of Caen stone — France.

COLORADO-YULE MARBLE COMPANY, Chicago, Illinois.

- 1 four-inch cube white Colorado-Yule marble — Yule Canyon, Colorado.

CURTISS, MISS E., Chicago, Illinois.

- 289 specimens minerals and fossils.

DETROIT GRAPHITE COMPANY, Chicago, Illinois.

- 1 specimen graphite — Baraga County, Michigan.

JOSEPH DIXON CRUCIBLE COMPANY, Jersey City, New Jersey.

- 5 specimens crude and refined graphite.

DJORUP, FRANTZ, Chicago, Illinois.

- 4 specimens magnesium oxy-chloride cement flooring.

DOLESE & SHEPARD COMPANY, Chicago, Illinois.

- Orthoceras in matrix — Gary, Illinois.

- 1 specimen fossil orthoceras — Gary, Illinois.

DUMONT, DR. T. A., and ADAMS, H. C., Dumont, Iowa.

- 5 specimens silver ores.

- 1 specimen gold ore — San Bernardino County, California.

FARLEY, THOS., and O'TOOLE, MICHAEL, Chicago, Illinois.

- Skull of *Bison Americanus* — Chicago.

FIELD, JOSEPH N., EXPEDITION.

- 6 specimens volcanic tuff — Ambrym, New Hebrides.

FIELD MUSEUM OF NATURAL HISTORY.

Collected by O. C. Farrington:

- 1 crystal of orthoclase — Stoneham, Maine.

Collected by H. W. Nichols:

- 1 specimen vegetable mold — Antioch, Illinois.

Purchases:

Bishop Canyon Meteorite.

Scott City meteorite.

- 1 specimen orthoceras.

Set of nine models of diamonds cut from the Cullinan diamond.

Collection of volcanic products from the January, 1912, eruption of Sakurajima.

- Pictures of same.
- 1 etched slice Mt. Edith meteorite.
- Collection illustrating varieties of amber — Prussia.
- Teeth of fossil shark — South Carolina.
- Jaw of modern shark.
- Teeth and tusks of young mastodon — Chesterton, Indiana.
- EDISON LAMP WORKS OF THE GENERAL ELECTRIC COMPANY,
Chicago, Illinois.
- 10 specimens illustrating all stages of the manufacture of the tungsten
lamp filament.
- GOODALL, MRS. ELLEN F., Chicago, Illinois.
- 1 fossil fish — Wyoming.
- GREBEL, WENDLER & COMPANY, Geneva, Switzerland.
- 21 specimens minerals (exchange).
- GUILD, H. G., Vale, Oregon.
- 137 specimens fossil shells, moss agate, etc. — Eastern Oregon.
- HARDIN, O. B., Chicago, Illinois.
- 1 specimen black sand — Woods County, Oklahoma.
- ILLINOIS STEEL COMPANY, Chicago, Illinois.
- 4 specimens coke oven by-products — Gary, Indiana.
- KENKEL, L. V., New Plymouth, Idaho.
- 26 specimens minerals and fossils — Eastern Oregon.
- KRANZ, DR. F., Bonn, Germany.
- 1 skull and lower jaw of Zeuglodon osiris — Fayum, Egypt (exchange).
- Mounted skeleton of cave bear (*Ursus spelaeus*) — Triest, Austria
(exchange).
- LAMB, N. F., Jonesboro, Arkansas.
- 2 elephant teeth — Bay, Arkansas.
- LEE MARBLE WORKS, Lee, Massachusetts.
- 1 polished slab of marble.
- 1 four-inch cube of marble — Lee, Massachusetts.
- MAINE AND NEW HAMPSHIRE GRANITE CORPORATION, Portland,
Maine.
- 1 cube each of Redstone Pink, Redstone Green, and North Jay White
granite — North Jay, Maine and Redstone, New Hampshire.
- MANIERRE, GEORGE, Chicago, Illinois.
- Skeleton of the Mammoth — Spokane County, Washington.
- MARSH, C. H., Marshfield, Oregon.
- 2 specimens natrolite — Douglas County, Oregon.
- MCDERMOTT STONE COMPANY, McDermott, Ohio.
- 2 specimens building stone — McDermott, Ohio.
- MEREDITH MINING AND MILLING COMPANY, Libertyville, Illinois.
- 1 specimen crushed feldspar sized for bird grit — Coatesville,
Pennsylvania.
- THE MICA MILLING AND MANUFACTURING COMPANY, Crawford,
Nebraska.
- 1 specimen mica.
- 1 specimen ground mica — Crawford, Nebraska.
- THE MT. WALDO GRANITE WORKS, Frankfort, Maine.
- 1 four-inch dressed cube of Mt. Waldo Granite — Mt. Waldo, Maine.

THE NERNST LAMP COMPANY, Pittsburgh, Pennsylvania.

1 Nernst lamp.

NEW YORK STATE MUSEUM, Albany, New York.

2 specimens fossil glass sponge (*Hydnoceras bathense* H. & C.) — Bath, New York.

NICHOLAS, DR. F. C., New York City.

62 specimens ores and lavas — Sonora, Mexico.

NORTH, PROF. H. B., New Brunswick, New Jersey.

6 specimens limonite after marcasite.

1 specimen hematite.

1 specimen iridescent pyrite — Wisconsin and New Jersey (exchange).

NORTH CAROLINA GRANITE CORPORATION, Mt. Airy, North Carolina.

1 dressed block Mt. Airy granite — Mt. Airy, North Carolina.

OHIO QUARRIES COMPANY, Cleveland, Ohio.

1 four-inch dressed cube of Buckeye gray sandstone — Cleveland, Ohio.

PATTEE, FRED, Chicago, Illinois.

1 specimen asbestos — Grand Canyon, Arizona.

PELTZER, ALBERT, Argo, Illinois.

1 specimen *Orthoceras* — Argo, Illinois.

PHENIX MARBLE COMPANY, Kansas City, Missouri.

2 specimens gray marble — Kansas City, Missouri.

PIERCE, HENRY B., Golconda, Illinois.

2 specimens fluorite (1st quality optical) — Golconda, Illinois.

POTTER, LOUIS C., Chicago, Illinois.

1 geode — Mississippi River near St. Louis, Missouri.

RENNE, D. S., Verona, Illinois.

2 septaria — Marseilles, Illinois.

ROCKPORT GRANITE COMPANY, Rockport, Massachusetts.

3 four-inch cubes of granite — Massachusetts and Maine.

ROMANO, JOSEPH, Chicago, Illinois.

1 specimen eroded limestone — Melrose Park, Illinois.

ROYAL ONTARIO MUSEUM OF MINERALOGY, Toronto, Canada.

3 polished specimens of silver ore — Cobalt, Ontario (exchange).

ST. JOHN, C. A., Wayland, New York.

1 marcasite concretion — Ogden, Iowa.

SALTO, DR. A. B., Copenhagen, Denmark.

1 specimen carnotite — Paradox Valley, Colorado.

SALISBURY, PROF. R. D., Chicago, Illinois.

2 fossil tree trunks — Patagonia.

SCOTT, GEO. S., New York City.

13 specimens minerals (exchange).

1 specimen amethyst — Cripple Creek, Colorado (exchange).

SHNABLE AND QUINN, Chicago, Illinois.

1 specimen *Orthoceras* — Calumet-Sag Canal.

SPANISH AMERICAN IRON COMPANY, New York City.

3 specimens iron ore — Cuba.

SOUTH DOVER MARBLE COMPANY, New York City.

1 four-inch cube of white marble, dressed.

1 polished slab of white marble — South Dover, New York.

STEARNS COAL AND LUMBER COMPANY, Stearns, Kentucky.

1 specimen carbonate iron ore — Stearns, Kentucky.

STRAWN, J. E., Silver Star, Montana.

47 specimens of minerals and ores — Tobacco Root Mts., Montana.

THURSTON, DR. FREDUS A., Chicago, Illinois.

Titanium oxide coloring artificial teeth.

UNIVERSAL PORTLAND CEMENT COMPANY, Chicago, Illinois.

5 specimens raw materials and finished Portland cement.

UNIVERSITY OF CALIFORNIA, Berkeley, California.

Skeleton of saber-tooth tiger (*Smilodon neogens*) — Los Angeles, Cal.
(exchange).

WEBB GRANITE AND CONSTRUCTION COMPANY, Worcester,
Massachusetts.

3 dressed cubes of granite — Massachusetts and New Hampshire.

WEGG, HAROLD, Chicago, Illinois.

48 specimens minerals, ores and fossils.

WINSTON, CHAS., Chicago, Illinois.

8 specimens carboniferous plants — Pennsylvania and Rhode Island.

DEPARTMENT OF ZOÖLOGY.

(ACCESSIONS ARE BY GIFT UNLESS OTHERWISE DESIGNATED.)

ABBOTT, J. B., Chicago, Illinois.

1 moth — Chicago, Illinois.

ALTSHELER, B., Louisville, Kentucky.

3 ostrich skins.

1 piece of skin (head) of an Oryx.

2 mammals (skins only).

3 mammals (skulls, scalps and skins).

6 mammals (skulls and scalps only).

16 mammals (skulls and entire skins) — British East Africa.

BARKER, MRS. F., Chicago, Illinois.

1 specimen of brain coral.

1 specimen of sea fan.

2 specimens of sponges.

BARNES, JUDGE R. M., Lacon, Illinois.

1 Trumpeter Swan.

1 Whistling Swan.

2 bodies of Trumpeter Swans.

1 body of Whistling Swan.

BEATY, W. L., Homestake, Montana.

2 wolf skulls — Homestake, Montana.

CLARK, B. PRESTON, Boston, Massachusetts.

1 Sphinx Moth — Guerro Mill., Hidalgo, Mexico.

CORWIN, MRS. C. A., Chicago, Illinois.

1 House Wren — Chicago, Illinois.

CORY, MRS. C. B., Chicago, Illinois.

1 box Turtle — Kelsey Lake, Dowagiac, Michigan.



BIRD LIFE ON WALRUS ISLAND, BERING SEA.
Taxidermy by L. L. Pray. Background painted by C. A. Corwin.

CURTISS, MISS E., Chicago, Illinois.

- 1 dragonfly — Bahamas.
- 150 butterflies and moths — the World.
- 169 beetles — United States.
- 105 beetles — foreign countries.

DERBY, W. M., JR., Chicago, Illinois.

- 1 Ruddy Duck — Illinois.

FIELD MUSEUM OF NATURAL HISTORY.

Collected by M. P. Anderson:

- 8 mammals — Venezuela.
- 219 bird skins — North West Peru.
- 1 box of accessory material — Venezuela.
- 182 bird skins — North West Peru.
- 69 mammals.
- 1 mammal (skin only).
- 7 mammal skulls — North West Peru.
- 18 bats — Colon and Maracaibo, Venezuela.
- 18 mammals.
- 4 mammal skulls.
- 1 bat — Peru.
- 55 bird skins — Peru.
- 50 bird skins — Lake Junin, Peru.
- 16 mammals.
- 2 mammals (skins only) — Lake Junin, Peru.
- 1 mammal skull — Salaverry, Peru.
- 4 land shells.
- 5 crustaceans.
- 3 snakes.
- 6 toads.
- 16 lizards.
- 35 fish — Venezuela and Peru.
- 6 snakes — Chimbote, Peru.
- 2 lizards — Near Chimbote, Peru.
- 514 spiders, bugs, grasshoppers, crickets, moths, butterflies, beetles, flies, bees, wasps, etc. — Peru, South America.

Collected by R. H. Becker:

- 1 lantern fly.
- 2 millipedes.
- 4 moth larvæ — Santo Amaro, Bahia, Brazil.
- 1 centipede.
- 1 ear-wig — Northern Trinidad.
- 119 mammals.
- 16 mammal skulls.
- 12 mammals (skins only) — Brazil.
- 13 snakes.
- 1 lizard — Brazil.
- 372 bird skins — Brazil.
- 145 bird skins — Brazil.
- 45 mammals.
- 60 mammals — Rio das Velhas, near Lagoa Santa, Brazil.

- 117 bird skins — Rio Preto Region, Brazil.
 - 5 mammals.
 - 6 mammal skulls — Trinidad.
- 29 bird skins.
 - accessories for group of oil birds (eggs, nests, etc.) — Trinidad.
- 63 mammals.
- 18 mammal skulls.
 - 3 mammals (skins only).
- 79 bats — Rio Preto Region, Brazil.
- 11 fish — Junction of Rio Grande and Rio Sao Francisco, Brazil.
- Collected by J. Friesser:
 - 18 bird skins — Kenai Peninsula, Alaska.
- Collected by W. J. Gerhard:
 - 24 dragonflies, bugs, grasshoppers, butterflies, moths, beetles, etc. — Northern Indiana and Northern Illinois.
- Collected by S. E. Meek:
 - 1 caiman — Lake Nicaragua, Nicaragua.
 - 11 bats — Panama.
- Collected by W. H. Osgood and M. P. Anderson:
 - 64 bats — Panama.
- Purchases:
 - 39 Arctic birds — Bering Sea, Alaska and Siberia.
 - 3,321 bird skins — United States.
 - 1 cardinal — Illinois and Wisconsin.
 - 2 song sparrows — Illinois and Wisconsin.
 - 1 giant clam — Madagascar.
 - 1 albino crow.
 - 2 passenger pigeons — Dekalb County, Indiana.
- FIELD, JOSEPH N., Expedition.
 - 599 shells — New Britain and German New Guinea.
- FRIESSER, J., Chicago, Illinois.
 - 1 mammal skull.
- GILLILAND, C. H., Trenary, Michigan.
 - 1 specimen of an abnormal four day old kitten — Trenary, Michigan.
- HANDY, COL. WM. J., Pasadena, California.
 - 1 Venus flower-basket sponge — Philippine Islands.
- HILL, A. L., Sterling, Illinois.
 - 4 plant lice — Rock River, Sterling, Illinois.
- JEONESCEN, PROF. THEO., Chicago, Illinois.
 - 1 chimpanzee — Central Africa.
- LEOTANL, FELIX, Port-of-Spain, Trinidad.
 - 1 snake — Near Port-of-Spain, Trinidad.
- LILJEBLAD, E., Chicago, Illinois.
 - 1 mantispa — Palos Park, Illinois.
- 10 Insects — Edgebrook, Illinois.
 - 2 wasps — Edgebrook, Illinois.
 - 4 bugs — Miller, Indiana.
- MCCORMICK, CYRUS H., Chicago, Illinois.
 - 2 beetles — Brazil.
- MESSINGER, JOE, Chicago, Illinois.
 - 1 albino mandril.

- MILLSPAUGH, MRS. C. F., Chicago, Illinois.
19 spiders — Ephraim, Door County, Wisconsin.
- MILLSPAUGH, C. F., Chicago, Illinois.
1 mayfly — Chicago, Illinois.
- NOTTER, MISS M., Chicago, Illinois.
1 roach — Chicago, Illinois (ex Tropics).
- PAXON, MAHLAN, Bluffton, Indiana.
1 mandarin duck.
- PIKE, EUGENE S., Chicago, Illinois.
1 pair elk horns.
- PILE, JAMES H., Wayne, Nebraska.
1 map terrapin — Wayne, Nebraska.
- PORTER, A. F., Decorah, Iowa.
1 beetle — British Guiana, South America.
27 beetles — West Indies.
- PRAY, L. L., Chicago, Illinois.
25 bird lice — Chicago, Illinois.
- SASKO, PROF. V. G., Chicago, Illinois.
2 spider wasps — Ogden, Utah.
- SETON, ERNEST T., Greenwich, Connecticut.
2 weasels.
2 stoats.
2 red-backed mice.
4 wood mice — England (exchange).
- SIEGEL COOPER & COMPANY, Chicago, Illinois.
1 monkey — South America.
1 South African baboon — South Africa.
- SKINNER, DR. HENRY, Philadelphia, Pennsylvania.
2 butterflies — Beaver Canyon, Idaho.
- STODDARD, H. L., Chicago, Illinois.
1 Say's bat — Sumpter, Sauk County, Wisconsin.
5 fleas — Miller, Indiana.
10 fleas — Willow Springs, Illinois.
- WALTERS, L. L., Chicago, Illinois.
3 fleas — Chicago, Illinois.
- WEGG, HAROLD, Chicago, Illinois.
1 box of bird eggs (205) — Colorado.
- WILLIAMSON, E. B., Bluffton, Indiana.
1 young red-shouldered hawk — Bluffton, Indiana.
1 young red-tailed hawk — Bluffton, Indiana.
1 Canada goose.
1 common loon — Bluffton, Indiana.
1 barn owl — Bluffton, Indiana.
1 red-shouldered hawk — Bluffton, Indiana.
1 red-tailed hawk — Bluffton, Indiana.
1 yellow billed cuckoo — Bluffton, Indiana.
1 horned owl — Bluffton, Indiana.
1 bittern — Bluffton, Indiana.
- WOLCOTT, A. B., Chicago, Illinois.
5 insects — Chicago, Illinois.
4 beetles — Beverly Hills, Illinois.

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State Bureau of Mines, Denver 1
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Bernice Pauahi Bishop Museum, Honolulu 2

Board of Agriculture and Forestry, Honolulu 5

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American Philosophical Society, Philadelphia	1
Association of Engineering Societies, Philadelphia	3
Bryn Mawr College, Bryn Mawr	2
Carnegie Institute, Pittsburgh	3
Carnegie Library, Pittsburgh	3
Carnegie Museum, Pittsburgh	3
Delaware County Institute of Science, Media	1
Dropsie College, Philadelphia	1
Engineers' Society of Western Pennsylvania, Pittsburgh	2
Franklin Institute, Philadelphia	2
Pennsylvania Museum and School of Industrial Art, Philadelphia	1
Philadelphia Academy of Natural Sciences, Philadelphia	1
Philadelphia College of Physicians, Philadelphia	1
Philadelphia Commercial Museum, Philadelphia	1
Philadelphia Numismatics and Antiquarian Society, Philadelphia	1
State Department of Agriculture, Harrisburg	1
Topographic and Geologic Survey, Harrisburg	4
United States Indian School, Carlisle	2
University of Pennsylvania, Philadelphia	4
Wagner Free Institute of Science, Philadelphia	2
Wistar Institute of Anatomy and Biology, Philadelphia	3
Wyoming Historical and Geological Society, Wilkesbarre	1
PHILIPPINE ISLANDS	
Bureau of Education, Manila	5
Department of the Interior, Bureau of Science, Manila	7
RHODE ISLAND	
Agricultural Experiment Station, Kingston	3
Providence Public Library, Providence	2
Roger Williams Park Museum, Providence	1
SOUTH CAROLINA	
Charleston Museum, Charleston	1
Department of Agriculture, Commerce and Industries, Clemson	1
SOUTH DAKOTA	
Agricultural Experiment Station, Brookings	4
Huron College, Huron	1
State Geological and Biological Survey, Vermilion	1

TENNESSEE

Agricultural Experiment Station, Nashville	3
State Geological Survey, Nashville	19

TEXAS

Scientific Society, San Antonio	1
University of Texas, Austin	6

UTAH

Agricultural Experiment Station, Logan	6
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VERMONT

State Forester, Burlington	2
University of Vermont, Burlington	4

VIRGINIA

Agricultural Experiment Station, Blacksburg	2
Geological Survey, Charlottesville	1
University of Virginia, Charlottesville	2
Virginia State Library, Richmond	3

WASHINGTON

Agricultural Experiment Station, Pullman	2
State Geological Survey, Olympia	1
State Library, Seattle	2
State Museum, Seattle	1

WASHINGTON, D. C.

Biological Society, Washington	1
Carnegie Endowment for International Peace, Washington	1
International Bureau of American Republics, Washington	2
National Academy of Sciences, Washington	2
National Educational Association, Washington	2
National Geographical Society, Washington	2
United States Government, Washington	510

WEST VIRGINIA

Agricultural Experiment Station, Morgantown	3
Forest, Fish and Game Warden, Bellington (gift)	1
University of West Virginia, Morgantown	1

WISCONSIN

Archæological Society, Milwaukee	1
Beloit College, Beloit	2
Geological and Natural History Survey, Madison	1
History Commission, Madison	1
Wisconsin Natural History Society, Madison	1
State Historical Society, Madison	2
State Horticultural Society, Madison	2
University of Wisconsin, Madison	11

WYOMING

Agricultural Experiment Station, Laramie	4
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Alexander, Charles P., Ithaca, New York	1
Ames, Oakes, North Easton, Massachusetts	8



SLAB 4 X 7 FEET ON WHICH ARE SHOWN THE FOSSIL SKELETONS OF TWENTY-FIVE WATER DEER (*Lepptomeryx reevesi*) FROM BAD LANDS, SOUTH DAKOTA.

Arthur, Joseph C., Lafayette, Indiana	1
Barker, Mrs. Frank W., Chicago (gift)	10
Bean, Tarleton H., Albany, New York	1
Bingham, Hiram, New Haven, Connecticut	8
Brandegee, Townshend S., Berkeley, California	1
Brown, Rome G., Minneapolis, Minnesota (gift)	1
Burnett, W. L., Fort Collins, Colorado	4
Casey, Thomas L., Washington, D. C. (gift)	3
Chalfant, Mrs. F. H., Pittsburgh, Pennsylvania (gift)	1
Chamberlain, Ralph V., Philadelphia, Pennsylvania	1
Crook, A. K., Springfield, Illinois	2
Dunn, Elizabeth Hopkins, Woods Hole, Massachusetts	1
Eigenmann, Carl H., Bloomington, Indiana	1
Evans, Alexander W., New Haven, Connecticut	43
Ford, W. E., New Haven, Connecticut	6
Francis, David R., St. Louis, Missouri (gift)	2
Gerhard, William J., Chicago (gift)	85
Girty, George H., Washington, D. C.	1
Goldman, E. A., Washington, D. C.	6
Harris, Gilbert D., Ithaca, New York	1
Heller, A. A., Chico, California	1
Hopkins, T. C., Syracuse, New York	1
Kearney, T. H., Washington, D. C.	1
Laufer, Berthold, Chicago (gift)	9
Lewis, A. B., Chicago (gift)	17
Lindley, Curtis H., San Francisco, California (gift)	3
Marks, E. L., Cambridge, Massachusetts	19
Meek, Mrs. Seth E., Chicago (gift)	3
Millsbaugh, Charles F., Chicago	82
Mitchell, Alexander N., Minneapolis, Minnesota	1
Muller, Hugo, Manila, Philippine Islands	1
Osborn, Henry F., New York City	54
Pellett, Frank C., Atlantic, Iowa (gift)	5
Rehn, James A. G., Philadelphia, Pennsylvania	1
Schubert, Charles, New Haven, Connecticut	41
Simms, S. Chapman, Chicago (gift)	187
Skinner, Henry, Philadelphia, Pennsylvania	1
Smith, Huron H., Chicago (gift)	9
Smith, J. D., Baltimore, Maryland	1
Starr, Frederick, Chicago	13
Strong, R. M., Chicago	3
Taubenhaus, J. J., Newark, Delaware (gift)	2
Thompson, Joseph G., Sausalites, California (gift)	13
Vandenburgh, J., Berkeley, California	4
Washington, Henry S., Washington, D. C.	11
Weller, Stuart, Chicago	1
Wickham, H. F., Philadelphia, Pennsylvania	1
Williamson, E. B., Bluffton, Indiana (gift)	7
Williston, Samuel W., Chicago	7
Wyer, Raymond, Muskegon, Michigan (gift)	1

AFRICA

Biologisch-Landwirtschaftliches Institut, Amani	I
Botanic Society, Pietermaritzburg, Natal	I
Department of Agriculture, Cape Town	2
Department of Mines, Pretoria, Transvaal	I
East Africa and Uganda Natural History Society, Nairobi	I
Geological Society, Johannesburg	2
Institut de Carthage, Tunis	I
Rhodesia Scientific Association, Bulawayo	I
Royal Society, Cape Town	I
South African Museum, Cape Town	I
Transvaal Museum, Pretoria	I

ARGENTINA

Facultad de Filosofia y Letras, Buenos Aires	I
Museum de La Plata, La Plata	3
Museo Nacional, Buenos Aires	2
Universidad Nacional de La Plata, Buenos Aires	6

AUSTRALIA

Australian Ornithologist's Union, Melbourne	I
Botanic Gardens and Government Domains, Sydney	4
Department of Agriculture, Adelaide	2
Department of Agriculture, Melbourne	I
Department of Agriculture, Sydney	3
Department of Agriculture, Hobart, Tasmania	I
Department of Fisheries, Sydney	I
Department of Mines, Sydney	3
Field Naturalists' Club, Brisbane	I
Field Naturalists' Club, Melbourne	I
Geological Survey, Perth	7
Government of the Commonwealth, Melbourne	5
Linnean Society of New South Wales, Sydney	I
Melbourne University, Melbourne	I
National Museum, Melbourne	I
Natural History and Scientific Society, Perth	2
Public Library, Museum and Art Gallery, Adelaide	I
Queensland Museum, Brisbane	3
Royal Anthropological Society of Australasia, Sydney	3
Royal Society, Hobart, Tasmania	21
Royal Society of New South Wales, Sydney	I
Royal Society of Queensland, Brisbane	I
Royal Zoological Society of New South Wales, Sydney	I
South Australian Ornithological Association, Adelaide	I
Technical Museum, Sydney	I
Western Australian Museum and Art Gallery, Perth	I

AUSTRIA

K. K. Franz-Josephs-Universität, Czernowitz	I
K. K. Naturhistorisches Hofmuseum, Vienna	I
K. K. Zoologisch-Botanische Gesellschaft, Vienna	I
Naturhistorisches Landesmuseum von Kärnten, Klagenfurt	I
Naturwissenschaftlicher Verein, Vienna	I

Naturwissenschaftlicher Verein für Steiermark, Graz	13
Verein für Höhlenkunde in Österreich, Graz	1
AUSTRIA-HUNGARY	
K. Akademie der Wissenschaften, Cracow	1
Kir. Magyar-Természettudományi Társulat, Budapest	1
Magyar Ornithologiai Zözpont, Budapest	1
Ungar. Akademie der Wissenschaft, Budapest	2
BELGIUM	
Académie Royale des Sciences, des Lettres et des Beaux-Arts de Belgique, Brussels	2
Institut Géologique, Louvain	1
Instituts Solvay, Brussels	4
Jardin Botanique de L'Etat, Brussels	2
Musée Royal d'Histoire Naturelle de Belgique, Brussels	1
Musées Royaux des Arts Décoratifs et Industriels, Brussels	1
Société d'Archéologie, Brussels	2
Société Royale de Botanique de Belgique, Brussels	1
BOHEMIA	
Böhm. Naturw. Landesdurchforschung, Prague	1
Deutscher Naturwissenschaftlich-Medizinischer Verein für Böhmen "Lotos," Prague	
Königlich-Böhmisches Museum, Prague	11
BORNEO	
Sarawak Museum, Sarawak	2
BRAZIL	
Campinas Centro de Ciencia, Sao Paulo	1
Instituto Agronomico de Estado, Sao Paulo	1
Museu Goeldi, Para	2
Museu Paulista, Sao Paulo	3
Sociedade Scientifica, Sao Paulo	1
CANADA	
Department of Agriculture, Ottawa	12
Department of Agriculture, Victoria	5
Department of Indian Affairs, Ottawa	2
Department of the Interior, Geological Survey, Ottawa	29
Department of Lands, Victoria	1
Department of Marine and Fisheries, Ottawa	3
Department of Mines, Ottawa	1
Department of Mines, Victoria	2
McGill University, Montreal	4
Minister of Education, Toronto	2
Naturaliste Canadien, Chicoutimi	1
Numismatic and Antiquarian Society, Montreal	1
Ottawa Field Naturalists' Club, Ottawa	1
Provincial Museum, Victoria	2
Royal Society, Toronto	1
CEYLON	
Ceylon Agricultural Society, Colombo	1
Colombo Museum, Colombo	2
Royal Botanic Gardens, Peradeniya	3

CHILE

Biblioteca Nacional, Santiago de Chile	4
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CHINA

Botanical and Forestry Department, Hongkong	1
Royal Asiatic Society, North China Branch, Shanghai	33

COSTA RICA

Museo Nacional, San José	1
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CUBA

Agricultural Experiment Station, Porto Rico	1
Biblioteca Nacional, Havana	2
Estacion Central Agronomico, Santiago de las Vegas	1
Universidad de La Habana, Havana	2

DENMARK

Botanical Garden, Copenhagen	4
Naturhistorisk Forening, Copenhagen	4
Société Botanique de Copenhagen, Copenhagen	1
Société Royale des Antiquaires du Nord, Copenhagen	1

ECUADOR

Biblioteca Municipal, Guayaquil	7
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EGYPT

Egyptian Government School of Medicine, Cairo	3
Institut Egyptien, Cairo	1
Survey Department, Giza	1

ENGLAND

Anthropological Institute of Great Britain and Ireland, London	1
Ashmolean Natural History Society of Oxfordshire, Oxford	1
Birmingham Natural History and Philosophical Society, Birmingham	2
Brighton and Hove Natural History and Philosophical Society, Brighton	1
British Association for the Advancement of Science, London	1
British Museum, London	8
British Museum (Natural History), London	5
Cambridge Philosophical Society, Cambridge	2
Cambridge University Library, Cambridge	8
Cheltenham Public Library, Art Gallery and Museum, Cheltenham	1
Croydon Natural History and Scientific Society, Croydon	1
Ealing Scientific and Microscopical Society, London	1
Entomological and Natural History Society, London	1
Great Britain Geological Survey, London	2
Horniman Museum, London	2
Hull Municipal Museum, Hull	4
Imperial Bureau of Entomology, London	2
Imperial College of Science and Technology, London	1
Japan Society, London	3
Lancashire Sea Fisheries Laboratory, Liverpool	1
Linnean Society, London	3
Liverpool Biological Society, Liverpool	1
Liverpool Geological Society, Liverpool	1
Liverpool Marine Biological Station, Liverpool	1
London Library, London	3
London Zoölogical Society, London	3

Manchester Field Naturalists' and Archæologists' Society, Manchester	1
Manchester Museum, Manchester	1
Marine Biological Association of the United Kingdom, Plymouth	1
Natural History Society of Northumberland, Durham and Newcastle-on-Tyne	2
Oxford Delegates of University Museum, Oxford	1
Plymouth Institute, Plymouth	1
Royal Archæological Institute of Great Britain and Ireland, London	1
Royal Botanic Gardens, Kew	2
Royal Colonial Institute, London	1
Royal Cornwall Polytechnic Society, Falmouth	1
Royal Geographical Society, London	2
Royal Horticultural Society, London	1
Royal Society, London	2
Royal Society of Arts, London	2
Scientific and Field Naturalists' Club, Hull	1
South London Entomological and Natural History Society, London	1
Tring Zoological Museum, Tring	1
University College, London	1
Wellcome Chemical Research Laboratories, London	7
FRANCE	
Académie des Sciences, Paris	2
Annales des Mines, Paris	2
L'Association des Naturalistes, Levallois-Perret	2
École d'Anthropologie, Paris	1
École des Langues Orientales Vivantes, Paris	7
Faculté des Sciences, Marseille	1
Laboratoire de Zoologie et de Physiologie Maritimes, Concarneau	21
Ministère de l'Instruction Publique et des Beaux Arts, Paris	1
Musée d'Histoire Naturelle, Paris	1
Museum d'Histoire Naturelle, Marseille	6
Museum d'Histoire Naturelle et d'Ethnographie, Havre	1
Revue Bretonne de Botanique, Rennes	1
Revue Critique de Paléozoologie, Paris	1
Revue Scientifique du Bourbonnais et du Centre de la France, Moulins	1
Société Botanique de France, Paris	3
Société d'Études des Sciences Naturelles, Rheims	
Société d'Histoire Naturelle, Colmar	1
Société d'Histoire Naturelle des Ardennes, Charleville	1
Société de Géographie, Paris	1
Société de Géographie, Toulouse	1
Société d'Horticulture et de Botanique, Marseille	1
Société des Américanistes, Paris	1
Société des Études Scientifiques, Angers	2
Société des Sciences de Nancy, Nancy	1
Société des Sciences Naturelles, La Rochelle	1
Société Géologique du Nord, Lille	1
Société Nationale d'Agriculture, Paris	1
Société Nationale d'Agriculture, Sciences et Arts, Angers	1
Société Nationale d'Horticulture, Paris	1
Société Zoologique de France, Paris	1

GERMANY

Bayerische Botanische Gesellschaft, Munich	2
Botanische Staatsinstitute, Hamburg	4
Botanischer Verein, Brandenburg	1
Botanischer Verein, Königsberg	11
Deutsche Dendrologische Gesellschaft, Bonn-Poppelsdorf	21
Deutsche Geologische Gesellschaft, Berlin	4
Deutsche Gesellschaft für Anthropologie, Ethnologie und Urgs., Berlin	1
Deutsche Gesellschaft für Volkstümliche Naturkunde, Berlin	2
Deutscher Seefischerei-Verein, Berlin	2
Deutsches Entomologisches Museum, Berlin	3
Geographische Gesellschaft, Hamburg	1
Geographische Gesellschaft, Lübeck	1
Gesellschaft für Anthropol. und Urgeschichte der Oberlausitz, Görlitz	1
Gesellschaft für Beförderung der Gesamten Naturwissenschaften, Marburg	1
Gesellschaft für Erdkunde, Berlin	2
Institut für Mineralogie und Petrographie, Leipzig	1
Jahres-Verzeichnis der an den Deutschen Univ. Erschienenenschriften, Berlin	1
Kaiser Wilhelms Universität, Strassburg	1
K. Bayer. Akademie der Wissenschaften, Munich	5
K. Bayer. Ludwig-Maximilians-Universität, Munich	3
K. Bergakademie, Clausthal	1
K. Bibliothek, Berlin	2
K. Botanischer Garten und Museum, Berlin	2
K. Georg-Augustus Universität, Göttingen	5
K. Museum für Völkerkunde, Berlin	3
K. Preussische Akademie der Wissenschaften, Berlin	2
K. Sächs. Bergakademie, Freiburg	1
K. Sächs. Gesellschaft der Wissenschaften, Leipzig	3
K. Sammlungen für Kunst und Wissenschaft, Dresden	2
K. Zoologisches und Anthropologisch-Ethnographisches Museum, Dresden	2
Nassauischer Verein für Naturkunde, Wiesbaden	1
Naturforschende Gesellschaft, Freiburg	3
Naturhistorische Gesellschaft, Hannover	1
Naturhistorische Gesellschaft, Nuremberg	2
Naturhistorischer Verein, Bonn	3
Naturhistorisches Museum, Hamburg	3
Naturwissenschaftliche Gesellschaft "Isis," Dresden	1
Naturwissenschaftlicher Verein für Schleswig-Holstein, Kiel	1
Naturwissenschaftlicher Verein für Schwaben und Neuburg, Augsburg	2
Naturwissenschaftliches Museum, Crefeld	3
Schlesische Gesellschaft für Vaterländische Kultur, Breslau	2
Senckenbergische Naturforschende Gesellschaft, Frankfurt a. M.	8
Stadt Bibliothek, Hannover	1
Thüringischer Botanischer Verein, Weimar	1
Universitäts Bibliothek, Bonn	29
Universitäts Bibliothek, Kiel	1
Verein für Erdkunde, Darmstadt	2
Verein für Erdkunde, Leipzig	2

Verein für Volkskunde, Berlin	2
Wissenschaftliche Anstalten, Hamburg	3
Zoologisches Institut der Universität, Strassburg	2
Zoologisches Museum, Berlin	2

INDIA

Agri-Horticultural Society, Madras	1
Anthropological Society, Bombay	1
Archæological Survey, Burma	1
Archæological Survey, Calcutta	7
Asiatic Society of Bengal, Calcutta	2
Baluchistan Forest Administration, Calcutta (gift)	19
Department of Agriculture, Bombay	1
Department of Agriculture, Madras	4
Department of Agriculture, Pusa	2
Geological Survey, Calcutta	5
Indian Museum, Calcutta	5
Royal Botanic Garden, Calcutta	1

IRELAND

Belfast Natural History and Philosophical Society, Belfast	1
Belfast Naturalists' Field Club, Belfast	1
Department of Agriculture, Fisheries Branch, Dublin	2
National Museum of Science and Art, Dublin	3
Royal Dublin Society, Dublin	3
Royal Irish Academy, Dublin	7
Royal Zoological Society, Dublin	2
Trinity College, Dublin	2

ITALY

Accademia di Scienze, Acireale	1
Accademia Reale delle Scienze, Turin	1
American Society, Rome	1
Museo de Zoologia et di Anatomie Comparata, Turin	1
R. Accademia dei Lincei, Rome	2
R. Accademia delle Scienze, Naples	2
R. Orto Botanico e Giardino Coloniale, Palermo	1
R. Scuola Superiore d'Agricoltura, Portici	1
Società di Naturalisti, Naples	1
Società Geografica Italiana, Rome	1
Società Italiana di Antropologia, Florence	1
Società Romana di Antropologia, Rome	1
Società Toscana di Scienze Naturali, Pisa	2

JAMAICA

Department of Agriculture, Kingston	1
Jamaica Institute, Kingston	1

JAPAN

Anthropological Society of Tokyo, Tokyo	1
Bureau of Productive Industry Formosa Government, Taihoku	1
Deutsche Gesellschaft für Natur- und Volkerkunde Ostasiens, Tokyo	1
Geological Survey, Tokyo	1
Imperial University of Tokyo, College of Science, Tokyo	7

Tohoku Imperial University, Sendai	I
Tokyo Botanical Society, Tokyo	I
JAVA	
Bataviaasch Genootschap van Kunsten en Wetenschappen, Batavia	5
Department of Agriculture, Buitenzorg	9
Nederlandsch-Indie K. Institut Taal-Land-en Volkenkunde, Batavia	2
MEXICO	
Direccion General de Estadística, Mexico	8
Instituto Geologico de Mexico, Mexico	I
Museo Nacional de Arqueologia, Historia y Etnologia, Mexico	2
Sociedad Cientifico "Antonio Alzate," Mexico	2
NETHERLANDS	
K. Akademie van Wetenschappen, Amsterdam	8
Museum voor Land-en Volkenkunde, Rotterdam	I
Nederlandsche Dierkundige Vereeniging, Leiden	2
Rijks Ethnographisches Museum, Leiden	16
Rijks Herbarium, Leiden	2
Stats Bibliotheek, Haarlem	I
Universiteit van Amsterdam, Amsterdam	I
NEW ZEALAND	
Acclimatization Society, Wellington	I
Department of Agriculture, Wellington	2
Department of Mines, Wellington	I
Dominion Museum, Wellington	2
NORWAY	
Bergen Museum	I
PERU	
Cuerpo de Ingenieros de Minas, Lima	I
Sociedad Geografica, Lima	I
PORTUGAL	
Academia Real das Sciencias, Lisbon	7
Collegio de S. Fiel, Lisbon	2
Société Portugaise de Sciences Naturelles, Lisbon	3
ROUMANIA	
Jassy Institute, Jassy	I
RUSSIA	
Académie Impériale des Sciences, Petrograd	16
Imperial Botanical Gardens, Petrograd	I
Kaukasisches Museum, Tiflis	2
Societas pro Fauna et Flora Fennica, Helsingfors	I
Société Impériale des Naturalistes, Moscow	3
Société Impériale des Naturalistes, Petrograd	I
Société Impériale Russe de Géographie, Petrograd	I
Société Ouralienne d'Amateurs des Sciences Naturelles, Ekaterinburg	I
SCOTLAND	
Fishery Board, Edinburgh	I
Natural History Society, Glasgow	I
Perthshire Society of Natural Science, Perth	I

Royal Botanic Garden, Edinburgh	31
Royal Scottish Museum, Edinburgh	1
Royal Society, Edinburgh	2
SPAIN	
Broteria, Salamanca	2
Museo de Ciencias Naturales, Madrid	2
R. Academia de Ciencias, Madrid	2
Sociedad Española de Historia Natural, Madrid	2
SWEDEN	
K. Biblioteket, Stockholm	1
K. Svenska Vetenskapsakademien, Stockholm	6
K. Vitt. Hist. och Antik. Akademien, Stockholm	1
Regia Societas Scientiarum, Upsala	1
Svenska Sällskapet för Antropologi och Geografi, Stockholm	1
Upsala University, Upsala	3
SWITZERLAND	
Conservatoire et Jardin Botaniques, Geneva	2
Geographisch-Ethnographische Gesellschaft, Zürich	1
Musée Ethnographique, Neuchâtel	1
Musée Zoologique, Lausanne	1
Naturforschende Gesellschaft, Basel	1
Naturforschende Gesellschaft, Bern	1
Ostsch. Geograph. Comm. Gesellschaft, St. Gall	1
Société de Physique et d'Histoire Naturelle, Geneva	1
Société Helvétique des Sciences Naturelles, Bern	1
Société Neuchâteloise de Géographie, Neuchâtel	2
Société Vaudoise des Sciences Naturelles, Lausanne	2
Société Zoologique, Geneva	1
VENEZUELA	
Museos Nacionales, Caracas	2
WALES	
National Museum of Wales, Cardiff	1
WEST INDIES	
Imperial Department of Agriculture, Barbadoes	2
YUCATAN	
La Camera Agricultura, Merida	1
Capitan, L., Paris, France	1
Carpenter, G. N., Dublin, Ireland	1
Caziot, C., Nice, Italy (gift)	6
Errera, Leo, Brussels, Belgium	1
Ewart, Alfred L., Melbourne, Australia	8
Fried, Alfred H., Berlin, Germany	1
Friedländer, R., und Sohn, Berlin, Germany	2
Fürbringer, Max, Jena, Germany	1
Gennep, A. van, Neuchâtel, Switzerland	2
Gleerup, G. W. K., Lund, Sweden	1
Gota, Se Faro, Tokyo, Japan	1
Gurney, J. H., Norfolk, England	3
Hamburg, Alexander, Upsala, Sweden	12

Hartland, Edwin Sidney, England	1
Hasse, C., Breslau, Germany	2
Hayrén, Ernst, Helsingfors, Russia (gift)	1
Heck, Ludwig, Germany	1
Janet, Charles, Paris, France	2
Joly, Henri L., London, England	3
Joyce, Thomas A., London, England	5
Koch-Grünberg, Theodor, Freiburg, Germany	4
Lenz, Rudolfo, Santiago de Chile, Chile	4
Ling Roth, H., Halifax, England	2
MacRitchie, David, Edinburgh, Scotland	3
Maiden, J. H., Sydney, Australia	1
Matschie, Paul, Berlin, Germany	6
Merzbacher, Gottfried, Munich, Germany	2
Mogdigliani, E., Florence, Italy	1
Northcote, Thomas W., London, England	9
Outes, Felix F., Buenos Aires, Argentina	4
Pearcey, F. Gordon, Edinburgh, Scotland (gift)	1
Rinné, F., Leipzig, Germany	1
Rivet, P., Paris, France	1
Sapir, Edward, Montreal, Canada	4
Sapper, Karl, Strassburg, Germany	3
Schlagenhaufen, Otto, Zürich, Switzerland	2
Schmidt, P. W., Mödling, Austria	1
Smith, Harlan I., Ottawa, Canada	1
Torres, Luis Maria, Buenos Aires, Argentina	1
Trouessart, E., Paris, France	5
Tuzson, Johann, Budapest, Austria-Hungary (gift)	3
Virchow, Hans, Berlin, Germany	1
Wegner, Richard N., Munich, Germany	2
Weigel, Oswald, Leipzig, Germany (gift)	1
Wülfing, E. A., Heidelberg, Germany	2
Wille, N., Christiania, Norway	2
Wood, Henry Trueman, England (gift)	1
Zimanyi, Karl, Budapest, Austria-Hungary	1



MARBLE HEAD OF TAOIST GOD OF CREATION, CHINA, T'ANG PERIOD (618-906).
The Mrs. T. B. Blackstone Expedition.

ARTICLES OF INCORPORATION

STATE OF ILLINOIS.

DEPARTMENT OF STATE.

WILLIAM H. HINRICHSSEN, *Secretary of State.*

TO ALL TO WHOM THESE PRESENTS SHALL COME, GREETING:

Whereas, a Certificate duly signed and acknowledged having been filed in the office of the Secretary of State, on the 16th day of September, A. D. 1893, for the organization of the COLUMBIAN MUSEUM OF CHICAGO, under and in accordance with the provisions of "An Act Concerning Corporations," approved April 18, 1872, and in force July 1, 1872, and all acts amendatory thereof, a copy of which certificate is hereto attached.

Now, therefore, I, William H. Hinrichsen, Secretary of State of the State of Illinois, by virtue of the powers and duties vested in me by law, do hereby certify that the said COLUMBIAN MUSEUM OF CHICAGO is a legally organized Corporation under the laws of this State.

In Testimony Whereof, I hereto set my hand and cause to be affixed the Great Seal of the State. Done at the City of Springfield, this 16th day of September, in the year of our Lord one thousand eight hundred and ninety-three, and of the Independence of the United States the one hundred and eighteenth.

W. H. HINRICHSSEN,
Secretary of State.

[SEAL.]

TO HON. WILLIAM H. HINRICHSSEN,

SECRETARY OF STATE:

SIR:

We, the undersigned citizens of the United States, propose to form a corporation under an act of the General Assembly of the State of Illinois, entitled "An Act Concerning Corporations," approved April 18, 1872, and all acts amendatory thereof; and that for the purposes of such organization we hereby state as follows, to wit:

1. The name of such corporation is the "COLUMBIAN MUSEUM OF CHICAGO."

2. The object for which it is formed is for the accumulation and dissemination of knowledge, and the preservation and exhibition of objects illustrating Art, Archaeology, Science, and History.

3. The management of the aforesaid Museum shall be vested in a Board of FIFTEEN (15) TRUSTEES, five of whom are to be elected every year.

4. The following named persons are hereby selected as the Trustees for the first year of its corporate existence:

Ed. E. Ayer, Charles B. Farwell, George E. Adams, George R. Davis, Charles L. Hutchinson, Daniel H. Burnham, John A. Roche, M. C. Bullock, Emil G. Hirsch, James W. Ellsworth, Allison V. Armour, O. F. Aldis, Edwin Walker, John C. Black, and Frank W. Gunsaulus.

5. The location of the Museum is in the City of Chicago, County of Cook, and State of Illinois.

(Signed),

George E. Adams, C. B. Farwell, Sidney C. Eastman, F. W. Putnam, Robert McMurdy, Andrew Peterson, L. J. Gage, Charles L. Hutchinson, Ebenezer Buckingham, Andrew McNally, Edward E. Ayer, John M. Clark, Herman H. Kohlfaat, George Schneider, Henry H. Getty, William R. Harper, Franklin H. Head, E. G. Keith, J. Irving Pearce, Azel F. Hatch, Henry Wade Rogers, Thomas B. Bryan, L. Z. Leiter, A. C. Bartlett, A. A. Sprague, A. C. McClurg, James W. Scott, George F. Bissell, John R. Walsh, Chas. Fitzsimons, John A. Roche, E. B. McCagg, Owen F. Aldis, Ferdinand W. Peck, James H. Dole, Joseph Stockton, Edward B. Butler, John McConnell, R. A. Waller, H. C. Chatfield-Taylor, A. Crawford, Wm. Sooy Smith, P. S. Peterson, John C. Black, Jno. J. Mitchell, C. F. Gunther, George R. Davis, Stephen A. Forbes, Robert W. Patterson, Jr., M. C. Bullock, Edwin Walker, George M. Pullman, William E. Curtis, James W. Ellsworth, William E. Hale, Wm. T. Baker, Martin A. Ryerson, Huntington W. Jackson, N. B. Ream, Norman Williams, Melville E. Stone, Bryan Lathrop, Eliphalet W. Blatchford, Philip D. Armour.

STATE OF ILLINOIS } ss.
COOK COUNTY }

I, G. R. MITCHELL, a NOTARY PUBLIC in and for said County, do hereby certify that the foregoing petitioners personally appeared before me and acknowledged severally that they signed the foregoing petition as their free and voluntary act for the uses and purposes therein set forth.

Given under my hand and notarial seal this 14th day of September, 1893.

G. R. MITCHELL,
[SEAL.] NOTARY PUBLIC, COOK COUNTY, ILL.

CHANGE OF NAME.

Pursuant to a resolution passed at a meeting of the Corporate members held the 25th day of June, 1894, the name of the COLUMBIAN MUSEUM was changed to FIELD COLUMBIAN MUSEUM. A certificate to this effect was filed June 26, 1894, in the office of the Secretary of State for Illinois.

CHANGE OF NAME.

Pursuant to a resolution passed at a meeting of the Corporate members held the 8th day of November, 1905, the name of the FIELD COLUMBIAN MUSEUM was changed to FIELD MUSEUM OF NATURAL HISTORY. A certificate to this effect was filed November 10, 1905, in the office of the Secretary of State for Illinois.

AMENDED BY-LAWS.

(FEBRUARY 10, 1913.)

ARTICLE I.

MEMBERS.

SECTION 1. Members shall be of five classes, Annual Members, Corporate Members, Life Members, Patrons and Honorary Members.

SEC. 2. Annual Members shall consist of such persons as are selected from time to time by the Board of Trustees at any of its meetings, and who shall pay an annual fee of ten dollars (\$10.00), payable within thirty days after notice of election, and within thirty days after each recurring annual date. The failure of any person to make such initiatory payment and such annual payments within said time shall, at the option of the Board of Trustees, be sufficient grounds for the forfeiture of an annual membership.

This said annual membership shall entitle the member to:

First.— Free admittance for the member and family, to the Museum on any day.

Second.— Ten tickets every year, admitting the bearer to the Museum on pay days.

Third.— A copy of all publications of the Museum when requested.

Fourth.— Invitations to all special exhibits, receptions, lectures, or other functions which may be given at the Museum.

SEC. 3. The Corporate Members shall consist of the persons named in the articles of incorporation, and of such other persons as shall be chosen from time to time by the Board of Trustees at any of its meetings, upon the recommendation of the Executive Committee; provided, that such persons named in the articles of incorporation shall, within ninety days from the adoption of these By-Laws, and persons hereafter chosen as Corporate Members shall, within ninety days of their election, pay into the treasury the sum of twenty dollars (\$20.00) or more. The failure of any person to make such payment within said time shall, at the option of the Board of Trustees, be ground for forfeiture of his corporate membership. Corporate Members becoming Life Members, Patrons or Honorary Members shall be exempt from dues. Annual meetings of said Corporate Members shall be held at the same place and on the same day that the annual meeting of the Board of Trustees is held.

SEC. 4. Any person paying into the treasury the sum of five hundred dollars (\$500.00), at any one time, shall, upon the unanimous vote of the Board, become a Life Member. Life Members shall be exempt from all dues.

SEC. 5. Patrons shall be chosen by the Board upon recommendation of the Executive Committee from among persons who have rendered eminent service to the Museum. They shall be exempt from all dues, and, by virtue of their election as Patrons, shall also be Corporate Members.

SEC. 6. Honorary Members shall be chosen by the Board from among persons who have rendered eminent service to science, and only upon unanimous nomination of the Executive Committee. They shall be exempt from all dues.

ARTICLE II.

BOARD OF TRUSTEES.

SECTION 1. The Board of Trustees shall consist of fifteen members. The respective members of the Board now in office, and those who shall hereafter be elected, shall hold office during life. Vacancies occurring in the Board shall be filled at a regular meeting of the Board, upon the nomination of the Executive Committee made at a preceding regular meeting, by a majority vote of the members of the Board present.

SEC. 2. Regular meetings of the Board shall be held on the second Monday of each month. Special meetings may be called at any time by the President, and shall be called by the Secretary upon the written request of three Trustees. Five Trustees shall constitute a quorum, except for the election of officers or the adoption of the Annual Budget, when seven Trustees shall be required, but meetings may be adjourned by any less number from day to day, or to a day fixed, previous to the next regular meeting.

SEC. 3. Reasonable written notice, designating the time and place of holding meetings, shall be given by the Secretary.

ARTICLE III.

HONORARY TRUSTEES.

SECTION 1. As a mark of respect, and in appreciation of services performed for the Institution, those Trustees who by reason of inability, on account of change of residence, or for other cause, or from indisposition to serve longer in such capacity, shall resign their place upon the Board, may be elected, by a majority of those present at any regular meeting of the Board, an Honorary Trustee for life. Such Honorary Trustee will receive notice of all meetings of the Board of Trustees, whether regular or special, and will be expected to be present at all such meetings and participate in the deliberations thereof, but an Honorary Trustee shall not have the right to vote.

ARTICLE IV.

OFFICERS.

SECTION 1. The officers shall be a President, a First Vice-President, a Second Vice-President, a Secretary, an Assistant Secretary, and a Treasurer. They shall be chosen by ballot by the Board of Trustees, a majority of those present and voting being necessary to elect. The President, the First Vice-President, and the Second Vice-President shall be chosen from among the members of the Board of Trustees. The meeting for the election of officers shall be held on the second Monday of January of each year, and shall be called the Annual Meeting.

SEC. 2. The officers shall hold office for one year, or until their successors are elected and qualified, but any officer may be removed at any regular meeting of the Board of Trustees by a vote of two-thirds of all the members of the Board. Vacancies in any office may be filled by the Board at any meeting.

SEC. 3. The officers shall perform such duties as ordinarily appertain to their respective offices, and such as shall be prescribed by the By-Laws, or designated from time to time by the Board of Trustees.

ARTICLE V.

THE TREASURER.

SECTION 1. The Treasurer shall be custodian of the funds of the Corporation, except as hereinafter provided. He shall make disbursements only upon warrants drawn by the Director and countersigned by the President. In the absence or inability of the Director, warrants may be signed by the Chairman of the Finance Committee, and in the absence or inability of the President, may be countersigned by one of the Vice-Presidents. But no warrants shall be issued, except in conformity with a regularly prepared voucher, giving the name of the payee and stating the occasion for the expenditure, and verified and approved as hereinafter prescribed. It shall be no part of the duties of the Treasurer to see that the warrants have been issued in conformity with such vouchers.

SEC. 2. The securities and muniments of title belonging to the corporation shall be placed in the custody of some Trust Company of Chicago to be designated by the Board of Trustees, which Trust Company shall collect the income and principal of said securities as the same become due, and pay same to the Treasurer, except as hereinafter provided. Said Trust Company shall allow access to and deliver any or all securities or muniments of title to the joint order of the following officers, namely: The President or one of the Vice-Presidents, jointly with the Chairman, or one of the Vice-Chairmen, of the Finance Committee of the Museum.

SEC. 3. The Treasurer shall give bond in such amount, and with such sureties, as shall be approved by the Board of Trustees.

SEC. 4. All vouchers executed for the payment of liabilities incurred in the administration of the Museum, shall be verified by the Auditor, and approved for payment by the Director, and the Chairman of the Administration Committee. All vouchers executed for expenditures for the construction or reconstruction of the Museum building, or buildings, shall be verified by the Auditor and approved for payment by the Chairman of the Building Committee. All vouchers executed in connection with the investments of the Corporation, or in any way having to do with the endowment funds of the Corporation, shall be verified by the Auditor and approved for payment by the Chairman of the Finance Committee.

SEC. 5. The Harris Trust and Savings Bank of Chicago shall be Custodian of "The N. W. Harris Public School Extension of Field Museum" fund. The Bank shall make disbursements only upon warrants drawn by the Curator of "The N. W. Harris Public School Extension of Field Museum of Natural History" and countersigned by the Auditor of Field Museum of Natural History. In the absence or inability of the said officers, warrants may be signed by such officers as shall be authorized by special resolution of the Board of Trustees of Field Museum of Natural History. But no warrant shall be issued, except in conformity with a regularly prepared voucher, giving the name of the payee and stating the occasion for the expenditure, and verified and approved by the officers above designated. It shall be no part of the duties of the Bank to see that the warrants have been issued in conformity with such vouchers.

ARTICLE VI.

THE DIRECTOR.

SECTION 1. The Board of Trustees shall elect a Director of the Museum, who shall remain in office until his successor shall be elected. He shall have immediate charge and supervision of the Museum, and shall control the operations of the insti-

tution, subject to the authority of the Board of Trustees and its Committees. The Director shall be the official medium of communication between the Board, or its Committees, and the scientific staff and maintenance force.

SEC. 2. There shall be four scientific departments of the Museum — Anthropology, Botany, Geology, and Zoölogy, each under the charge of a Curator, subject to the authority of the Director. The Curators shall be appointed by the Board upon the recommendation of the Director, and shall serve during the pleasure of the Board. Subordinate staff officers in the scientific departments shall be appointed and removed by the Director upon the recommendation of the Curators of the respective Departments. The Director shall have authority to employ and remove all other employees of the Museum.

SEC. 3. The Director shall make report to the Board at each regular meeting, recounting the operations of the Museum for the previous month. At the Annual Meeting, the Director shall make an Annual Report, reviewing the work of the Museum for the previous year, which Annual Report shall be published in pamphlet form for the information of the Trustees and Members, and for free distribution in such number as the Board may direct.

ARTICLE VII.

AUDITOR.

SECTION 1. The Board shall appoint an Auditor, who shall hold his office during the pleasure of the Board. He shall keep proper books of account, setting forth the financial condition and transactions of the Corporation, and of the Museum, and report thereon at each regular meeting, and at such other times as may be required by the Board. He shall certify to the correctness of all vouchers for the expenditure of the money of the corporation.

ARTICLE VIII.

COMMITTEES.

SECTION 1. There shall be five Committees as follows: Finance, Building, Auditing, Administration, and Executive.

SEC. 2. The Finance and Auditing Committees shall each consist of three members, and the Building and Administration Committees shall each consist of five members. All members of these four Committees shall be elected by ballot by the Board at the Annual Meeting, and shall hold office for one year, and until their successors are elected and qualified. In electing the members of these Committees, the Board shall designate the Chairman and Vice-Chairman by the order in which the members are named in the respective Committee; the first member named shall be Chairman, the second named the Vice-Chairman, and the third named, Second Vice-Chairman, succession to the Chairmanship being in this order in the event of the absence or disability of the Chairman.

SEC. 3. The Executive Committee shall consist of the President of the Board, the Chairman of the Finance Committee, the Chairman of the Building Committee, the Chairman of the Administration Committee, the Chairman of the Auditing Committee, and two other members of the Board to be elected by ballot at the Annual Meeting.

SEC. 4. Four members shall constitute a quorum of the Executive Committee; three members shall constitute a quorum of the Administration Committee, and in all other standing Committees, two members shall constitute a quorum. In the

event that, owing to the absence or inability of members, a quorum of the regularly elected members cannot be present at any meeting of any Committee, then the Chairman thereof, or his successor, as herein provided, may summon any member of the Board of Trustees to act in place of the absentee.

SEC. 5. The Finance Committee shall have supervision of investing the endowment and other permanent funds of the Corporation, and the care of such real estate as may become its property. It shall have authority to invest, sell, and reinvest funds, subject to the approval of the Board.

SEC. 6. The Building Committee shall have supervision of the construction, reconstruction, and extension of any and all buildings used for Museum purposes.

SEC. 7. The Executive Committee shall be called together from time to time as the Chairman may consider necessary, or as he may be requested to do by three members of the Committee, to act upon such matters affecting the administration of the Museum as cannot await consideration at the Regular Monthly Meetings of the Board of Trustees. It shall, before the beginning of each fiscal year, prepare and submit to the Board an itemized Budget, setting forth the probable receipts from all sources for the ensuing year, and make recommendations as to the expenditures which should be made for routine maintenance and fixed charges. Upon the adoption of the Budget by the Board, the respective Committees shall be considered as authorized to make the expenditures detailed therein. No increase in the expenditures under any items of the Budget shall be made, except by authority of the Board of Trustees, but the Executive Committee shall have authority, in cases of emergency, to expend a further total sum not exceeding two thousand dollars in any one month.

SEC. 8. The Administration Committee shall have general supervision of the affairs of the Museum. The Committee shall hold one meeting each month with the Director at the Museum within a week preceding each Monthly Meeting of the Board of Trustees.

SEC. 9. The Auditing Committee shall have supervision over all accounting and bookkeeping, and full control of the financial records. It shall cause the same, once each year, or oftener, to be examined by an expert individual or firm, and shall transmit the report of such expert individual or firm to the Board at the next ensuing regular meeting after such examination shall have taken place.

SEC. 10. The Chairman of each Committee shall report the acts and proceedings thereof at the next ensuing regular meeting of the Board.

SEC. 11. The President shall be ex-officio a member of all Committees and Chairman of the Executive Committee. Vacancies occurring in any Committee may be filled by ballot at any regular meeting of the Board.

ARTICLE IX.

NOMINATING COMMITTEE.

SECTION 1. At the November meeting of the Board, each year a Nominating Committee of three shall be chosen by lot. Said Committee shall make nominations for membership of the Finance Committee, the Building Committee, the Administration Committee, and the Auditing Committee, and for two members of the Executive Committee, from among the Trustees, to be submitted at the ensuing December meeting and voted upon at the following Annual Meeting in January.

ARTICLE X.

SECTION 1. Whenever the word "Museum" is employed in the By-Laws of the Corporation, it shall be taken to mean the building in which the Museum as an Institution is located and operated, the material exhibited, the material in study collections, or in storage, furniture, fixtures, cases, tools, records, books, and all appurtenances of the Institution, and the workings, researches, installations, expenditures, field work, laboratories, library publications, lecture courses, and all scientific and maintenance activities.

SEC. 2. These By-Laws may be amended at any regular meeting of the Board of Trustees by a two-thirds vote of all the members present, provided the amendment shall have been proposed at a preceding regular meeting.

HONORARY MEMBERS.

EDWARD E. AYER

HARLOW N. HIGINBOTHAM

CHARLES B. CORY

STANLEY McCORMICK

MRS. TIMOTHY B. BLACKSTONE

NORMAN W. HARRIS

DECEASED.

ROBERT F. CUMMINGS

GEORGE M. PULLMAN

MARY D. STURGES

PATRONS.

ALLISON V. ARMOUR

ERNEST R. GRAHAM

NORMAN W. HARRIS

VERNON SHAW KENNEDY

GEORGE MANIERRE

JOHN S. MILLER

JOHN BARTON PAYNE

FREDERICK W. PUTNAM

FREDERICK J. V. SKIFF

WILLARD A. SMITH

DECEASED.

DANIEL H. BURNHAM

JOSEPH N. FIELD

WILLIAM I. BUCHANAN

EDWIN WALKER

CORPORATE MEMBERS.

ADAMS, GEORGE E.	HIGINBOTHAM, H. N.
ALDIS, OWEN F.	HUTCHINSON, CHARLES L.
ARMOUR, ALLISON V.	
AYER, EDWARD E.	JONES, ARTHUR B.
BARTLETT, A. C.	KENNEDY, VERNON SHAW
BLACK, JOHN C.	KOHLSAAT, HERMAN H.
BLAIR, WATSON F.	
BUTLER, EDWARD B.	LATHROP, BRYAN
CHALMERS, W. J.	MCCORMICK, CYRUS H.
CHATFIELD-TAYLOR, H. C.	MANIERRE, GEORGE
CLARK, JOHN M.	MILLER, JOHN S.
CRANE, RICHARD T.	MITCHELL, JOHN J.
EASTMAN, SIDNEY C.	PAYNE, JOHN BARTON
ELLSWORTH, JAMES W.	PECK, FERD. W.
	PORTER, GEORGE F.
FIELD, MARSHALL III	PUTNAM, FREDERICK W.
FIELD, STANLEY	
GAGE, LYMAN J.	REAM, NORMAN B.
GETTY, HENRY H.	RYERSON, MARTIN A.
GRAHAM, ERNEST R.	
GUNSAULUS, FRANK W.	SKIFF, FREDERICK J. V.
GUNTHER, C. F.	SMITH, WILLARD A.
	SPRAGUE, A. A.
	SPRAGUE, A. A., 2D.
HARRIS, NORMAN W.	STONE, MELVILLE E.

DECEASED.

ARMOUR, PHILIP D.	LEITER, L. Z.
BAKER, WILLIAM T.	MCCAGG, E. B.
BISSEL, GEORGE F.	McCLURG, A. C.
BLATCHFORD, E. W.	McnALLY, ANDREW
BUCHANAN, W. I.	PATTERSON, ROBERT W.
BUCKINGHAM, EBENEZER	PEARCE, J. IRVING
BURNHAM, DANIEL H.	PETERSON, ANDREW
CRAWFORD, ANDREW	PULLMAN, GEORGE M.
CURTIS, WILLIAM E.	SCHNEIDER, GEORGE
DAVIS, GEORGE R.	SCOTT, JAMES W.
FIELD, JOSEPH N.	SMITH, BYRON L.
FITZSIMONS, CHARLES	STOCKTON, JOSEPH
HALE, WILLIAM E.	WALKER, EDWIN
HARPER, WILLIAM R.	WALLER, R. A.
HATCH, AZEL F.	WALSH, JOHN R.
HEAD, FRANKLIN H.	WILLIAMS, NORMAN
JACKSON, HUNTINGTON W.	

LIFE MEMBERS.

ADAMS, GEORGE E.
ALDIS, OWEN F.

BARRETT, MRS. A. D.
BARRETT, ROBERT L.
BARTLETT, A. C.
BLACKSTONE, MRS. TIMOTHY B.
BLAINE, MRS. EMMONS
BLAIR, CHAUNCEY J.
BLAIR, HENRY A.
BLAIR, WATSON F.
BOOTH, W. VERNON
BUTLER, EDWARD B.
BYLLESBY, H. M.

CARTON, L. A.
CHALMERS, WILLIAM J.
CRANE, CHARLES RICHARD
CRANE, RICHARD T.
CUMMINGS, D. MARK

DEERING, CHARLES
DELANO, FREDERIC A.
DICK, ALBERT BLAKE
DRAKE, TRACY C.

FARWELL, WALTER
FAY, C. N.
FIELD, STANLEY
FULLER, WILLIAM A.

GARTZ, A. F.
GRISCOM, CLEMENT A.
GROMMES, JOHN B.

HAMILL, ERNEST A.
HILL, LOUIS W.
HOROWITZ, L. J.
HOXIE, MRS. JOHN A.
HUGHITT, MARVIN
HUTCHINSON, C. L.

ISHAM, MRS. KATHERINE
PORTER.

JOHNSON, FRANK S.
JOHNSON, MRS. ELIZABETH AYER
JONES, ARTHUR B.

KEEP, CHAUNCEY
KING, FRANCIS
KING, JAMES C.
KIRK, WALTER RADCLIFFE

LAWSON, VICTOR F.

MCCORMICK, MRS.
MCCORMICK, CYRUS H.
MCCORMICK, HAROLD F.
MACVEAGH, FRANKLIN
MASON, WILLIAM S.
MITCHELL, J. J.

NEWELL, A. B.

ORR, ROBERT M.

PAM, MAX
PIKE, EUGENE S.
PORTER, GEORGE F.
PORTER, H. H.

REAM, MRS. CAROLINE P.
REAM, NORMAN B.
REVELL, ALEX. H.
ROSENWALD, JULIUS
RUSSELL, EDMUND A.
RYERSON, MRS. CARRIE H.
RYERSON, MARTIN A.

SMITH, ORSON
SPRAGUE, A. A.
SPRAGUE, A. A., 2D.
STURGES, GEORGE

THORNE, GEORGE R.

WILLARD, ALONZO J.

ANNUAL MEMBERS.

ADAMS, CYRUS H.
ADAMS, MILWARD
ALLERTON, ROBERT H.
ARMOUR, GEORGE A.

BAILEY, EDWARD P.
BECKER, A. G.
BILLINGS, C. K. G.
BILLINGS, DR. FRANK
BOAL, CHARLES T.
BROWN, WILLIAM L.
BURLEY, CLARENCE A.

COMSTOCK, WILLIAM C.
CONOVER, CHARLES H.
COONLEY-WARD, MRS. L. A.
CORWITH, CHARLES R.
CUDAHY, JOHN
CUMMINGS, E. A.
CURTIS, D. H.

DAY, A. M.
DEERING, JAMES
DILLMAN, L. M.

EISENDRATH, W. N.

FAIR, R. M.
FORGAN, JAMES B.
FORSYTH, ROBERT
FRANK, HENRY L.
FULLER, O. F.
FÜRST, CONRAD

GAYLORD, FREDERIC
GLESSNER, J. J.
GOODRICH, A. W.
GORDON, EDWARD K.
GREY, CHARLES F.
GREY, WILLIAM L.
GURLEY, W. W.

HARRIS, GEORGE B.
HARRIS, JOHN F.
HASKELL, FREDERICK T.
HIBBARD, WILLIAM G., JR.
HITCHCOCK, R. M.
HOLT, GEORGE H.
HOPKINS, JOHN P.

INSULL, SAMUEL

JENKINS, GEORGE H.
JONES, J. S.

KEEFER, LOUIS
KEITH, W. SCOTT
KIMBALL, EUGENE S.
KIMBALL, MRS. MARK

LAMB, FRANK H.
LAY, A. TRACY
LEE, BLEWETT
LEIGH, EDWARD B.
LINCOLN, ROBERT T.
LINN, W. R.
LOGAN, F. G.
LORD, J. B.
LOWDEN, FRANK O.
LYTTON, HENRY C.

MCCREA, W. S.
MCWILLIAMS, LAFAYETTE
MACFARLAND, HENRY J.
MAGEE, HENRY W.
MANSON, WILLIAM
MANSURE, E. L.
MAYER, LEVY
MERRYWEATHER, GEORGE
MEYER, MRS. M. A.
MILLER, CHARLES P.
MOORE, L. T.
MOORE, N. G.
MULLIKEN, A. H.

NATHAN, ADOLPH
NOLAN, JOHN H.
NORTON, O. W.

OEHNE, THEODORE
ORB, JOHN A.
OSBORN, HENRY A.

PALMER, PERCIVAL B.
PARKER, FRANCIS W.
PEARSON, EUGENE H.
PINKERTON, W. A.
PORTER, WASHINGTON

RIPLEY, E. P.
ROSENBAUM, JOSEPH
ROSENFELD, MRS. MAURICE
RUNNELLS, J. S.

SCHMIDT, DR. O. L.
SCHWARTZ, G. A.
SEIPP, MRS. C.
SHEDD, JOHN G.

SHORTALL, JOHN L.
SKINNER, THE MISSES
SOPER, JAMES P.
SOUTHWELL, H. E.
SPENCE, MRS. ELIZABETH E.
SPOOR, J. A.
STOCKTON, JOHN T.
STUART, ROBERT

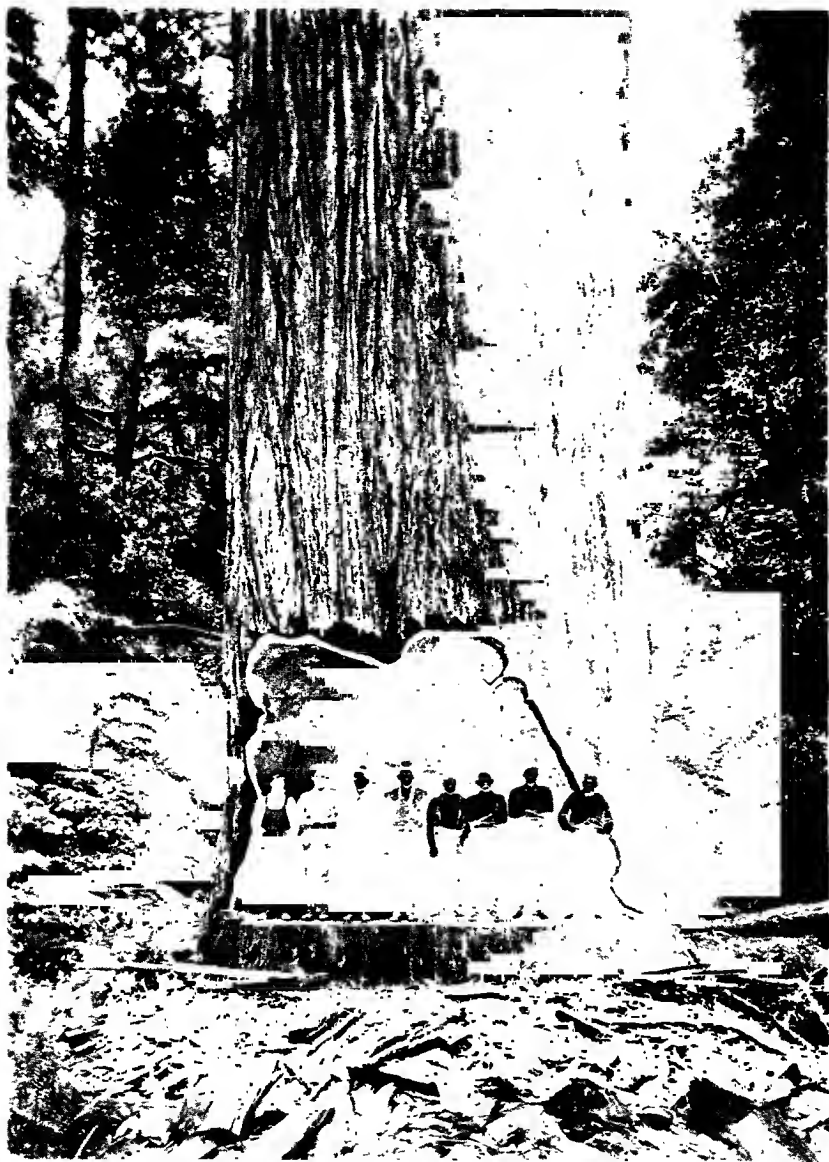
TEMPLETON, THOMAS

UIHLEIN, EDWARD G.

WACKER, CHARLES H.
WALKER, JAMES R.
WALKER, WILLIAM B.
WALLER, EDWARD C.
WEBSTER, GEORGE H.
WHITE, A. STAMFORD
WHITEHEAD, W. M.
WILSON, MRS. E. C.
WILSON, M. H.
WOODCOCK, LINDSAY T.

DECEASED.

BIRKHOFF, GEORGE, JR.



GETTING DOWN THE CALIFORNIA REDWOOD TRUNK SPECIMEN FOR THE MUSEUM
COLLECTION REPRESENTING NORTH AMERICAN FORESTRY



GETTING THE "WHEEL SPECIMEN" OF CALIFORNIA REDWOOD OUT OF THE FOREST FOR THE MUSEUM COLLECTION
REPRESENTING NORTH AMERICAN FORESTRY.



PART OF THE CRATED SPECIMEN OF CALIFORNIA REDWOOD SHOWING THE SIZE OF THE
BOARDS SECURED FOR THE MUSEUM COLLECTIONS REPRESENTING
NORTH AMERICAN FORESTRY



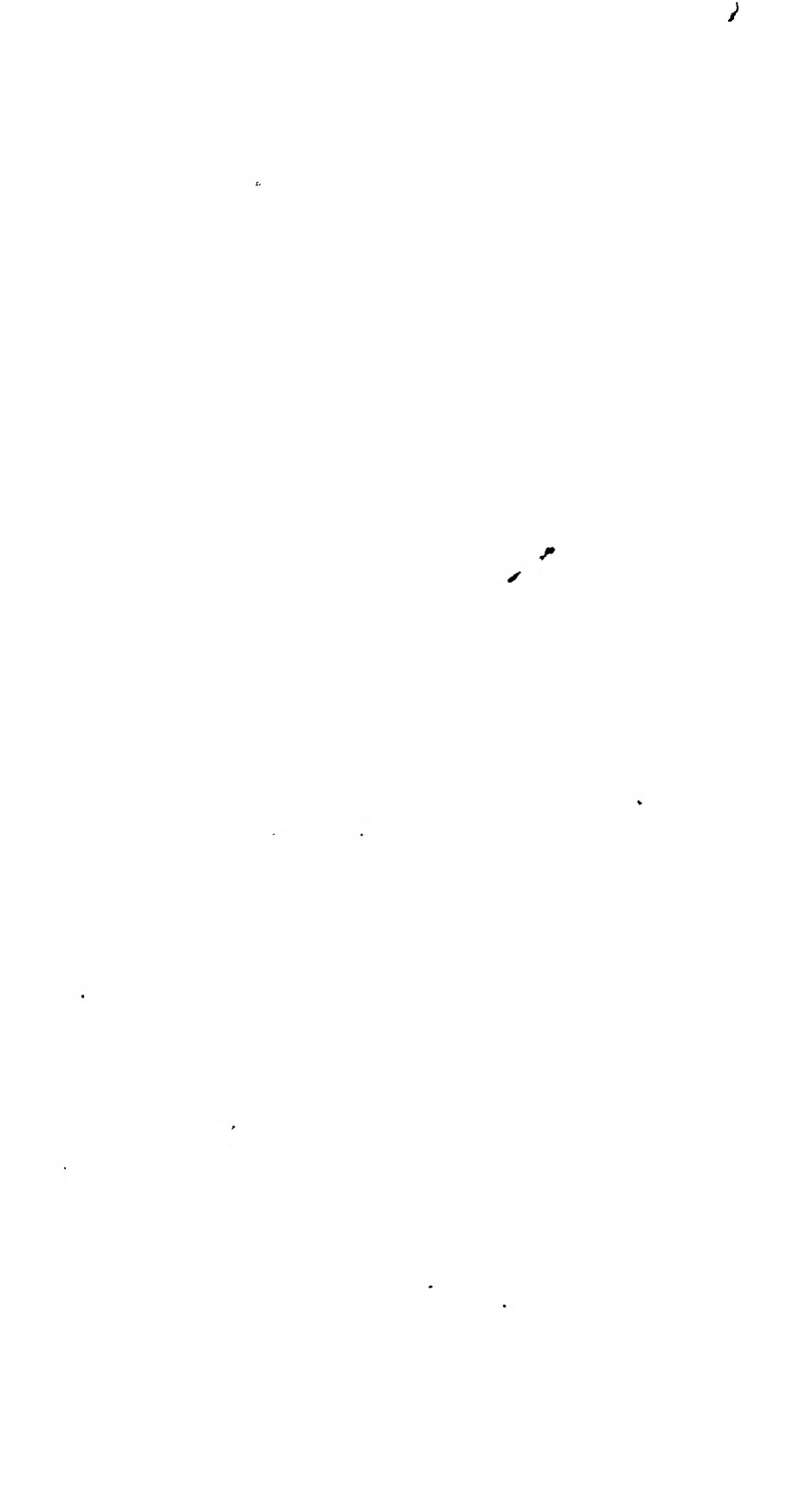
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